Health Education for Medical Students: Does Ein Kerem Campus Promote a Healthy Lifestyle? Current Reality and Desired Future

Report prepared by third year medical students

Summer, 2010

Dozens ride on bike daily to Ein Kerem. Is this how the University promotes a healthy lifestyle?

In the main courtyard of the Faculty of Medicine, it is easier to smoke and purchase junk food than park a bike.

Entrance forbidden to bikes and dogs

Supervised by Prof. Mayer Brezis, as part of the Introduction to Public Health Course, the Faculty of Medicine, the Hebrew University, Jerusalem
Abstract

Compared to other campuses of the Hebrew University, other campuses in Israel and those around the world, the Ein Kerem Campus is far behind in every aspect of healthy lifestyle promotion:

a. Ein Kerem is the only campus in Israel without infrastructure for exercise, such as athletic facility equipped for sports, physical training or swimming. There are no showers or lockers for those cycling to Ein Kerem, no bike paths and bicycle parking is forbidden in most areas of the campus.

b. There is severe cigarette-smoke-induced air pollution in the courtyards, due to lack of enforcement of smoking regulations and smoking outside of designated areas.

c. Unhealthy food, associated with the epidemic of obesity and diabetes, is sold around the campus.

d. The curriculum does not include nutrition and the subject of a healthy lifestyle is given a passing mention in some courses.

e. A student survey indicated that 70% of the students do not engage in any physical activity. On completion of their studies, about 50% are not even aware of the detrimental effects of smoking or of the substantial benefits of physical activity. About half of the students could not remember exposure to a physician who counseled patients on a healthy lifestyle.

f. Almost all (98%) of the students believe that the School of Medicine's environment does not promote a healthy lifestyle. A vast majority of the students favor improving the situation and believe that "my personal behavior is important in setting an example for my future patients", as has been demonstrated in the literature.

g. Campus conditions for student-mothers do not encourage breastfeeding, although its medical benefits are well-known. A survey shows a dismal picture of mothers having to pump milk in bathrooms, of lecturers refusing to allow infants in the classroom, of high nursery costs due to an absence of student discounts and a lack of awareness of the presence of a parent-coordinator on the Mount Scopus campus. As a result of these poor conditions, about one third of the student-mothers stopped breast feeding after a few months.

h. During interviews, Hadassah and Hebrew University administration executives showed a willingness to improve this situation.
**Recommendations**

a. It is possible to initiate immediate change towards a healthy lifestyle by removing smokers and junk food from the Faculty of Medicine courtyard and by allowing bicycle parking.

b. After these steps are taken, the campus should gradually be made a smoke-free campus, like many leading universities in the world.

c. The infrastructure should be improved to allow arrival on campus by foot or bike (at least from the Ora Junction); many more parking spaces for bikes should be installed and the parking prohibitions around campus revoked; showers and lockers, as well as fitness facilities or temporary gyms provided; and the sale of healthy food in the campus cafeterias encouraged.

d. A decision must soon be made regarding the construction of a sports and health facility at Ein Kerem, as on other campuses.

e. Physical education courses should be made available and later mandatory for credits to medical students and to all students in healthcare professions at Ein Kerem.

f. An educational program to medical students for healthy lifestyle counseling must be developed - including learning skills for smoking cessation, wise nutrition and physical activity.

g. Conditions for student-mothers must be improved by adding more than one breast feeding room; upgrading the nursery (in order to allow student discount), instructing lecturers to allow students with babies in the classroom, and disseminating information on the University's parent coordinator.

h. Periodical follow-up surveys must be conducted to monitor the situation and reveal possible ways to further improvement.
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1. **Doctors and students who maintain a healthy lifestyle offer better advice to their patients in this area** [Review from The Center for Diseases Control & Prevention (CDC)]: According to a comprehensive, up-to-date review of literature by CDC researchers, doctors and students maintaining a healthy lifestyle provide better advice in this area to their patients.

- Doctors are perceived as a highly reliable source of health information.
- Many studies indicate that a clinician following his/her own advice regarding a healthy lifestyle provides better advice to his/her patients about physical activity, smoking and nutrition.
- Since a doctor sees a patient several times annually, he/she is able to provide ongoing consultation and obtain feedback.
- Every doctor may have an ethical duty to advise patients on healthy lifestyles.
- A strong association was also found between personal habits and counseling among medical students.
- Ongoing intervention, which reinforces a healthy lifestyle, resulted in a 50% increase in counseling on physical activity among thousands of students in 16 medical schools.
- Studies also indicate that physical activity improves academic learning and achievement.

The conclusion drawn from this review is that medical schools should encourage a healthy lifestyle among their students not only to promote personal welfare but to increase their positive influence on chronic disease prevention in future patients.
2. **Diseases prevention through physical activity**

- Lack of physical activity is an important cause of morbidity, mortality and high medical treatment costs in Western society (see summary in the pamphlet published by the Ministry of Health's Director General).
- A one percent increase in the public's engaging in regular physical activity would have saved nearly 300 million NIS per year (~ health basket budget).
- Lack of physical activity may be a contributing factor in the development of the following diseases (the type of study is in parentheses):

<table>
<thead>
<tr>
<th>Hypertension (SR of RCTs)</th>
<th>Chronic fatigue (RCTs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes mellitus (Cs, RCTs, D)</td>
<td>Fibromyalgia (RCTs)</td>
</tr>
<tr>
<td>Dyslipidemia (Cs, RTCs, D)</td>
<td>Sleep disorders (RCTs)</td>
</tr>
<tr>
<td>Myocardial infarction (Cs, D)</td>
<td>Gallbladder stones (Sc, D)</td>
</tr>
<tr>
<td>Stroke (Cs, D)</td>
<td>Diverticulosis (Cs)</td>
</tr>
<tr>
<td>Claudication (SR of RCTs)</td>
<td>Prostate hypertrophy (Cs, D)</td>
</tr>
<tr>
<td>Depression (SR of RCTs)</td>
<td>Sexual dysfunction (RCTs)</td>
</tr>
<tr>
<td>Cognitive dysfunction (Cs, D)</td>
<td></td>
</tr>
<tr>
<td>Osteoporosis (SR if RCTs)</td>
<td></td>
</tr>
<tr>
<td>Arthritis (SR of RCTs)</td>
<td>SR, systematic review</td>
</tr>
<tr>
<td>Chronic low back pain (SR of RCTs)</td>
<td>RCTs, randomized controlled trials</td>
</tr>
<tr>
<td>Recurrent falls (SR of RCTs)</td>
<td>Cs, cohort studies</td>
</tr>
<tr>
<td>Hip fracture (Cs)</td>
<td>D, dose-dependent effect</td>
</tr>
<tr>
<td>Breast cancer (SR of Cs, D)</td>
<td></td>
</tr>
<tr>
<td>Colon cancer (SR of Cs, D)</td>
<td></td>
</tr>
</tbody>
</table>

- This information also appears in the 2005 pamphlet published by the Ministry of Health's Director General, in his directive to the medical staff and organizations in the health system to promote physical activity in the Israeli populace. Following are quotes from this pamphlet:
"The medical staff is obligated to identify patients who do not get enough physical activity and to consult, examine their willingness, and assist in the implementation of recommendations to start/increase physical activity, and follow-up on its implementation."

"Educational institutions for all medical professions (medical schools, nursing schools, schools of pharmacy, etc.) must include the topic of physical activity and the methods for behavioral change noted in this document, both in their academic curriculums and on their exams."

What is the situation like elsewhere? An example from Stanford University, where it is understood that travel to campus by bicycle must be promoted for reasons of health, environment and reduced parking demands.

Bicycle riding is promoted all over the world. Cycling results in less air pollution, fewer traffic jams, more available parking spaces for cars and fewer diseases.

The Hebrew University of Jerusalem
Dear biker/s! You are parked illegally. Your vehicle has been locked. Please contact Campus Security.

A person who exercises regularly saves $110,000 in medical costs. (An MPH magna cum laude thesis at the Hebrew University)
Smoking and its detrimental effects on health and on the healthcare system

- Annual smoking-related costs in Israel to both society and the healthcare system:
  - Nearly 9,000 deaths
  - Half a million hospitalization days
  - A direct cost of NIS 1.75 billion
  - Nearly 100,000 QALY’s (Quality Adjusted Life Years)

A reduction of one percent in the number of smokers would prevent approximately 90 deaths annually and save NIS 17.5 million.

Gary Ginsberg, Cost-Utility Analyses of Interventions to Reduce the Smoking-Related Burden of Diseases in Israel, Smokler Center for Health Policy Research, February 2010, Jerusalem

Smoking is the greatest preventable mortality risk factor (according to the WHO). It has been proven that consultation on smoking cessation with a physician is very effective:

- One short consultation with a doctor, even without further intervention, doubles the rate of people quitting smoking.
- There are simple and effective methods such as the 5 A’s model: Assess, Advise, Agree, Assist, Arrange.


Cost-utility ratio of physician advice for smoking cessation: $400 per QALY, one of the most cost effective modality in medicine!

(A separate report about smoking on campus is at the end of this document.)
3. Nutrition

- The Western world is witnessing an explosion of obesity, diabetes and hypertension of epidemic proportions, mainly caused by huge high-calorie portions, which have replace natural foods.

- The Hebrew University School of Medicine teaches about biochemistry and medications. Perhaps it is advisable to teach about disease prevention through behavioral changes by promoting a healthy lifestyle. For example, hypertension may be reduced by weight loss, exercise and adherence to a high fruit and vegetable, low-salt diet. These actions are as efficient as medications. Perhaps it is advisable to include a nutrition course for medical students (currently, there is none).

- A new study indicates that a public policy leading to a decrease in salt consumption will prevent one million vascular events in the U.S. and save over 20 billion dollars.

- Studies show that consuming one sugar-sweetened beverage daily doubles the risk of diabetes. Leading educational institutions in the world have removed sugar-sweetened beverages from vending machines on their premises.
4. A comparison between the "Hadassah Ein Kerem" campus, other campuses in the Hebrew University and in Israel

- There is a sport center with a swimming pool on each campus, except at Ein Kerem (see tables below).
- Entrance is free of charge or highly subsidized. For example, a subscription costs less than NIS 200 annually at the Technion and NIS 350 at Ben Gurion University.
- Regarding courses: there is a mandatory credited physical education course at the Technion and a selection of elective courses/classes in healthy lifestyle, nutrition and sports.
- Smoking areas are located outside the campus and there are plenty of parking spaces for bicycles.
- On all campuses of the Hebrew University, with the exception of Ein Kerem, there is a sport center that includes a swimming pool and a gym. The number of students at Ein Kerem is greater than at Mt. Scopus and the same as in Givat Ram (3500).
- The sport centers contain facilities such as tennis courts, a soccer field, etc.
- In addition, other universities operate various sport activities: Ben Gurion University started "A Sports Week" and a "Green Campus" project, where fresh, organic food is sold to students. At Tel Aviv University, there are bike-rental facilities for NIS 5 for riding around campus, and this year, the Technion's Faculty of Medicine held a "Step Race"...
### Comparison between Hadassah and Medical Schools in Israel

<table>
<thead>
<tr>
<th></th>
<th>Technion</th>
<th>Tel Aviv</th>
<th>Ben Gurion</th>
<th>Hadassah</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sport center</strong></td>
<td>Gym at the medical dorms</td>
<td>On campus, a two-minute walk from the dorms</td>
<td>On campus - free entrance for students</td>
<td>No</td>
</tr>
<tr>
<td><strong>Swimming pool</strong></td>
<td>Free of charge</td>
<td>Entrance fee</td>
<td>Free of charge</td>
<td>No</td>
</tr>
<tr>
<td><strong>Subscription</strong></td>
<td>NIS 190 annually</td>
<td>NIS 1600 annually</td>
<td>NIS 350 annually</td>
<td></td>
</tr>
<tr>
<td><strong>Courses</strong></td>
<td>- Physical education is mandatory</td>
<td>Health education Medical awareness of physical activity Environment and public health (elective)</td>
<td>The sport center features nutrition, slimming and healthy lifestyle courses</td>
<td>Introduction course in public health A short sports medicine course</td>
</tr>
<tr>
<td><strong>Smoking areas</strong></td>
<td>None on campus</td>
<td>On a balcony on each floor</td>
<td>None</td>
<td>In the entire main courtyard</td>
</tr>
<tr>
<td><strong>Bike parking</strong></td>
<td>In all parking lots and near each building</td>
<td>Scattered all over campus</td>
<td>Scattered all over campus</td>
<td>Few places only: crowded and dirty</td>
</tr>
</tbody>
</table>

### Comparison between campuses of the Hebrew University

<table>
<thead>
<tr>
<th></th>
<th>Har Hatzofim</th>
<th>Giv'at Ram</th>
<th>Rehovot</th>
<th>Ein Kerem</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of students</strong></td>
<td>12,500</td>
<td>3,500</td>
<td>2,500</td>
<td>3,500</td>
</tr>
<tr>
<td><strong>Sport center</strong></td>
<td>Including swimming pool and gym</td>
<td>Including swimming pool and gym</td>
<td>Including swimming pool and gym</td>
<td>No</td>
</tr>
<tr>
<td><strong>Annual subscription cost</strong></td>
<td>1400 NIS</td>
<td>1220 NIS</td>
<td>850 NIS</td>
<td></td>
</tr>
<tr>
<td><strong>Additional services</strong></td>
<td>- A nutrition and sport's injury clinic - Basketball court - 10 tennis courts</td>
<td>- Athletic stadium - Tennis courts - Basketball court</td>
<td>- Tennis courts - Medical rehabilitation clinic - Combined gymnasiun for soccer, basketball &amp; volleyball + fitness facility at dorms</td>
<td>No</td>
</tr>
</tbody>
</table>

**Is Ein Karem Campus not being discriminated against?**
The Hebrew University boasts of being ranked among the 100 leading universities in the world. In leading institutions such as Stanford or the Mayo Clinic, there are superb infrastructures for bike riders (such as showers and lockers), promotion of a healthy lifestyle, healthy nutrition, smoking cessation and physical activity coupled with physical education courses (up to eight courses for credits). These institutions permit the use of all sport facilities (including a gym, swimming pool and tennis) free of charge for students and university employees.

- In a recently-published student survey on satisfaction with student welfare issues (Ma’ariv, May 2010), the Hebrew University ranked much lower than Ben Gurion University, the Technion, Tel Aviv University and Haifa University.

- In recent years, many campuses in the U.S. have become smoke-free campuses (see separate report on smoking at end of this document).

- Had Ein Kerem invested only a small fraction of what these institutions have invested, it would have made significant improvements in student welfare: leading institutions realize that this creates an atmosphere more conducive to learning.
5. A survey of habits, knowledge and practices on healthy lifestyle among medical students at the Faculty of Medicine in Jerusalem

- The survey included 129 third and sixth-year students and was based on a questionnaire of a past, similar survey.
- Approximately seven percent of students smoke and 10% consume alcohol excessively or use drugs.
- Seventy percent do not engage in regular physical activity.
- Fifty percent are not aware of detrimental effects of smoking (such as fertility problems, ear infections and meningitis in children).
- Fifty percent are not aware of the substantial benefits of physical activity (such as the protective effect of exercise against cancer).
- Fifty percent have not been exposed to a doctor who counseled his or her patients on a healthy lifestyle.
- This year’s survey confirms results from a similar survey conducted in 2004 on missed learning: most students reported that they have not learned how to give advice on proper nutrition, smoking cessation, physical activity or cardiac rehabilitation.
- Most students believe that their personal conduct is important in setting an example for future patients.
- The report concludes that 98% of the students believe that the Ein Kerem Medical School environment does not promote a healthy lifestyle.

Perhaps it is advisable to include a nutrition course at the Medical School?

And similar not-so-subtle messages at entrances to lecture halls?

One sugar-sweetened beverage per day doubles the risk of diabetes (JAMA 2010)

Lowering blood pressure through healthy lifestyles

<table>
<thead>
<tr>
<th>Decrease in blood pressure</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-20 mmHg/10 kg weight loss</td>
<td>Weight loss</td>
</tr>
<tr>
<td>8-14 mmHg</td>
<td>High fruit and vegetable, low-salt diet</td>
</tr>
<tr>
<td>2-8 mmHg</td>
<td>Reduced consumption of salt</td>
</tr>
<tr>
<td>4-9 mmHg</td>
<td>Physical activity</td>
</tr>
</tbody>
</table>

In the U.S., a decrease in salt consumption will prevent one million of vascular events and save over 20 billion dollars.

Similarly, a 5-10 mmHg decrease in blood pressure will prevent approximately 15% of cardiovascular events. (Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure, 2010)

Perhaps it is advisable to learn about behavioral changes?
6. Interviews with administration executives

- **How can the institution facilitate a healthier lifestyle?**
  - Dean of the Faculty of Medicine, Prof. Eran Leitersdorf: "A fitness facility should be built and turned into a center for preventive medicine. **Preventive medicine is always better.** Studies have shown that preventive measures are the big-time winners."
  
  - Head of Tzameret, Prof. Shmuel Shapira: "We have to be realistic in our requests. We cannot be too paternalistic".
  
  - Prof. Shimon Glick, member of the Audit Committee of the Council for Higher Education: "One of the issues demanding support and reinforcement in the Faculty of Medicine in Jerusalem is preventive medicine. We need leadership for this change and staff members who will support it."

- **What is the main obstacle in preventing the building of infrastructures for fitness facilities at the faculty?**
  - The Dean: "Priorities. The Hebrew University raises approximately 100 million dollars annually in donations. The cost of building a sport center is seven million dollars. Funds are allocated by the President according to priorities – a fitness room for Ein Kerem Campus is at the bottom of the list".

  - It was conveyed to us by the CEO of Hadassah that this is a budgetary problem and that as far as Hadassah is concerned, a fitness facility is currently not a priority. However, there is willingness to cooperate with the faculty (including financial cooperation).

  - The Dean of Students indicated that the faculty is not permitted to raise funds independently and that it relies on a financial allocation from the President of the University. "We have recently completed a running and a fitness course on the Mount Scopus campus and we will be happy to start such a project here."

  - The President of the Hebrew University attaches great importance to healthy lifestyle promotion. The transcript of the interview with the President can be found in the Appendix.

- **Students' reactions**
Many students in their clinical years of study indicated that they do not encounter many doctors who confront their patients on lifestyle habits. Most of them emphasized that doctors are lacking tools, professional knowledge and required skills to carry this out effectively. (What is the meaning of "lacking the tools"? Due to their own lifestyle? Perhaps this point should be made clearer...)

A fourth year student's reaction: "As a result of your questionnaire I realized that I really don't confront my patients about their lifestyle and I decided I was going to change this, although I was concerned about their possible reactions. I saw a patient, who is a heavy smoker, and made a comment about his smoking. We spoke for a few minutes. I was surprised to discover how certain things which I thought to be trivial weren't trivial to smokers. I explained the risks involved in smoking and spoke about the lack of physical exercise, and he was cooperative and even agreed to try to stop smoking. I was so impressed with his reaction that I am really going to stick with this approach."

If a single questionnaire had such an impact on one student, a more active education program as well as a more directive approach on the part of the faculty could surely lead to positive change.
7. **Report summary and recommendations**

- The Ein Kerem Campus does not promote a healthy lifestyle
- This contradicts recommendations in the literature and in the pamphlet of the Director General of the Ministry of Health.
- A variety of academic and practical activities should be carried out to promote healthy lifestyles:
  - Operate a gym for students, employees and staff
  - Build an outdoor gym as an interim solution
  
  - Promote the selling of healthy food on campus
  - Enforcement of smoking in smoking-designated areas only
  - **Promotion of cycling as transportation to campus:**
    - Availability of showers for cyclists
    - Arranging bicycle parking at the Ora junction and transportation to hospital by an expanded shuttle
    - Building suitable parking areas for bikes around campus and improving bike paths to Hadassah.
List of students contributing to this report

In alphabetic order:
Amit          Even Haim
Mor           Averbuch
Eyal          Arami
Tal           Ben-Oliel
Eitan         Zlotnik
Sapir         Hoshen
Anat          Yatziv
Lotan         Cohen
Ruhama        Lehman-Weiss
Sabina        Melnick
Pesah         Melnick
Tal           Margalit
Yshai         Sompolinsky
Susan         Abedelgani
Shimon        Firman
Matan         Fisher
Tamar          Cesla
Alon           Shoss

Link to students' live presentation in June 2010:

mms://vod.ekmd.huji.ac.il/EK_Medical_faculty/Library_2/Students_For_A_Healthier_Medicine_1.wmv

At the end of this presentation, Prof. Brezis stated that the class had shown commitment, responsibility and solidarity – all professional values vital to public health. Even if the students will not benefit themselves from many of the proposed changes, they nevertheless worked hard on this paper, out of real concern for future generations. According to the famous Talmud Sage Hillel:

“If I am not for myself, who will be for me? And when I am for myself, what am 'I'? And if not now, when?” (Hillel the Elder, Avot 1:14)
Appendix: Breastfeeding on the Ein Kerem campus

Breastfeeding up to the age of six months is recognized by all professional organizations, including the World Health Organization, as a healthy lifestyle for both mother and child, in terms of the substantial decrease in morbidity, mortality and healthcare costs. It turns out that the Ein Kerem Campus, whose purpose is to educate and promote healthy lifestyles, fails miserably in this regard.

For the past three years there has been no breast feeding room in Ein Kerem. This fact makes breastfeeding difficult for student-mothers and forces them to improvise humiliating solutions, such as pumping milk in the toilets or stopping altogether. Recurrent pleas were made during this period to the deans of the Medical and Dentistry Schools that recently resulted in the decision to open a one breast feeding room on the top floor of the library building, the construction of which is soon to be completed.

Following are the results of a survey of 14 student-mothers:

1. How convenient was it for you to continue breast feeding or pump milk during your studies?

<table>
<thead>
<tr>
<th>Convenience Level</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely convenient</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Very convenient</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Convenient</td>
<td>14%</td>
<td>2</td>
</tr>
<tr>
<td>Inconvenient</td>
<td>57%</td>
<td>8</td>
</tr>
<tr>
<td>Highly inconvenient</td>
<td>29%</td>
<td>4</td>
</tr>
</tbody>
</table>

2. To what extent did you have an organized, clean, comfortable, peaceful place and privacy to breastfeed or pump milk?

<table>
<thead>
<tr>
<th>Convenience Level</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely convenient</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Very convenient</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Convenient</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Inconvenient</td>
<td>64%</td>
<td>9</td>
</tr>
<tr>
<td>Highly inconvenient</td>
<td>36%</td>
<td>5</td>
</tr>
</tbody>
</table>
In the event that you found such a place, where was it located? Please provide details.

I relied on the kindness of nurses in the various departments, who sometimes agreed to let me breastfeed in their office or in another available room in the department; in the Student Union; on-call doctors’ rooms, toilets, a room of a nice cleaning lady, etc.; an empty room in the Pharmacy School; the Union coordinator’s room. In each department I pumped milk in a different place. The secretary in the School of Public Health helped me find an available room each time. Sometimes, I went to the maternity ward of the hospital. In the toilets. In offices of people who did me a favor; in an inner room of the secretaries’ office; in a room in the Nursing School.

If not, how did you manage?

Sometimes I found myself pumping in the toilets using a manual pump.

There is always the not-very-good option of the toilets.

In the shelter, in the storeroom, I begged for five minutes in the nurses’ room.

I pumped in the photocopy room of the secretary of the Dean of the Dental School. It was close and convenient but I had the feeling I was in the way, and after two months, I was told that the room had been closed to breastfeeding. I had to go to the Nursing School, which took nearly an entire class time to get there and back.

I used a room at the Pharmacy School, which was old, dirty and highly unpleasant (the other mothers don’t clean up after they have finished using it). You need to look for suitable adapters for the outlets. If there is more than one mother in the room there is no privacy, since the room is small and crowded. Sometimes there is no room at all. There is no fridge (it is not so nice to put a bottle filled with breast milk in the employees’ fridge or carry a food hamper all day long). There is nowhere to wash your hands or equipment. Another important issue is that there are no milk pumping rooms at the hospital and the break was sometimes not long enough to allow me to run all the way to the Pharmacy School, pump and get back in time for class (especially when classes were held at the Sharett Building in the hospital). On such days, I had to give up pumping milk or pump in the toilets, which is a really unpleasant experience.

I pumped in the toilets and in the nurses’ (both male and female…) room.

As a last option, I pumped in the toilets.
When I couldn’t find a place – I used the toilets. At a certain stage, my classmates said they didn’t mind if I pumped in class because it was ridiculous that I had to constantly run to the toilets and miss classes.

Sometimes I went over to the breast feeding room at the maternity ward but this was only if the staff agreed.

5. If you pumped milk, did you have an organized place to store the milk?

6. Did the lecturers allow you to bring your baby to class (up to the age of three months)?

7. Did you give up breast feeding because you found it inconvenient to continue under campus conditions (please mark one answer)
Nursery: In Ein Kerem, there is a nursery in the student dorms. Its maximum capacity is ten babies and two caregivers. This is due to the size of the nursery which is a two-bedroom apartment. It is operated for the benefit of the students and is a non-profit organization. There is a great demand for the nursery each year and the waiting list is long. It is possible and essential to expand the nursery. To this end, approximately NIS 400,000 must be raised for renovations.

The renovation of the nursery is a prerequisite for recognition by the Ministry of Industry, Trade and Labor. Such recognition would entitle student-parents to a substantial subsidy in monthly nursery payments. The nursery is not currently recognized because it does not fulfill the standards set by Ministry of Industry, Trade and Labor is therefore not subsidized. Parents who use the nursery pay NIS 1800 monthly, an burdensome amount for parents who are also non-working students. Pressure must be applied to remedy the situation in the nursery so it can receive recognition from the Ministry of Industry, Trade and Labor, which will then allow a NIS 1200 monthly discount for student-parents.

Renovation of the nursery will allow more nurseries to open for babies and infants, thereby expanding the range of ages (which is currently 2-10 months).

9. To what extent would you recommend Ein Karem Campus for student-mothers?

<table>
<thead>
<tr>
<th>Extent</th>
<th>Recommended</th>
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<tr>
<td>Extremely</td>
<td>0% 0</td>
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<tr>
<td>Very much</td>
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<tr>
<td>Reasonable</td>
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<tr>
<td>Very little</td>
<td>57% 8</td>
</tr>
<tr>
<td>Not at all</td>
<td>43% 6</td>
</tr>
</tbody>
</table>

Further comments made by student-mothers:

Any kind of help I received was unofficial and was based on the goodness of private individuals who tried to help. More formal facilities are needed, especially on such a large campus.

I primarily had breast feeding difficulties, but before I gave birth, some lecturers told me that I might find it easier to give up on that year as I wouldn't be able to catch up on the material.
A nice, spacious breast feeding room should be built, with a fridge, sink and available outlets. The availability of the breast feeding rooms should be greater and if possible, an additional breast feeding room at the hospital should be built.

There are no conditions for orderly pumping at the hospital except for the fact that there is a fridge in each ward. It seems that students on campus are to be separated from others in the hospital.

I kept the milk in the Academon's (campus bookstore) fridge.

I pumped milk in my sixth year of medical school, when you switch from one ward to another every two weeks and each time I had to find a new solution - that was difficult! In addition, pumping is often at the expense of classes/lectures. This is a shame but I don't know if there's any solution for that.

Generally speaking, the approach on campus is that this is not their problem and that breastfeeding students should cope or discontinue pumping.

Even in the toilets, there is no outlet for operating an electric pump (which you need because there's not enough time to manually pump).

Thank you for your concern. This is indeed an important project.

To summarize the issue of breastfeeding:

Promoting the status of women studying to become doctors simultaneously with starting a family is in accordance with the vision of HADASSAH, the Women's Zionist Organization of America.

In this spirit, Ein Kerem Campus should become a campus promoting a healthy lifestyle also in respect to the status of women-mothers.
Appendix: Transcript of an interview with the President of the Hebrew University, Prof. Menahem Ben Sasson

Background: The Introduction to Public Health course was cancelled and aspects of education for public health and awareness of healthy lifestyle are examined in the following interview

1. Rank the importance of the association between physical activity and health (1-7). 7

2. Do you engage in any sport activity (not at all, rarely, often or frequently)?
   Yes, every morning.
   Where do you work out? – at home, outdoors, at the gym, other.
   Outdoors - 30 minutes of bike riding or walking.

3. Do you believe that one's academic institution/workplace should provide an infrastructure for a healthy lifestyle (nutrition, suitable courses – practical and theoretical, infrastructures for physical exercise – gym, swimming pool, etc.)? (1-7)
   Yes – by educating, providing facilities and mainly creating awareness of the importance of a healthy lifestyle and public health studies.

4. If a safe road for bike riders was to be paved all the way to the faculty, would you consider using this means of transportation?
   I have considered cycling to Har Hatzofim but there are no showers for bike riders at this place either.

5. To what extent do you feel that the institution where you study/work promotes a healthy lifestyle?

6. To what extent do you feel that the institute where you study/work enables a healthy lifestyle?
   (In reference to questions 5 and 6) Not enough - there are special bicycle paths on the Rehovot campus but this is not the case on all campuses. Your dean has proposed a plan and I am interested in developing and promoting the building of facilities intended for the military program, while using them to promote health issues in your faculty. A discussion will be held in two weeks with the Deans of Medicine and Dentistry. Promoting health is at the top of my agenda.
7. If you believe that the institute should allow a healthier lifestyle, how do you think it can enable it?

Building showers, paving roads, drawing attention to designated areas for physical activity (there are many ads on the bulletin board). As to mandatory courses relating to physical activity, the President answered:

This issue should be on the University's agenda, in order for the University to acknowledge the importance of and facilitate such activities.

8. What, in your opinion, is/are the main limitation(s) preventing construction of infrastructures for physical fitness facilities at the Faculty of Medicine in Ein Kerem?

This is solely a budgetary problem. According to the President, there is no problem of available space or cooperation (among the University management, the faculty and the hospital).

When we indicated that the Hospital CEO had claimed that there is a problem of available space, the President answered: Until we complete the current construction of the laboratory building, we will not be able to address the issue of building a gym, because we need to hang on to available space.

9. How can you help the institute promote the issue of a healthy lifestyle?

Directing attention to the issue, allocating resources although minimal, completing construction in the most critical places (referring to Ein Kerem Campus). Perhaps it is possible to do something on a temporary basis on one of the now-available library floors.

10. Do you think that a doctor educating for a certain lifestyle must maintain himself such lifestyle?

Yes, a doctor should set an example – refraining from smoking, keeping fit, showing that preventive medicine plays a significant role.

11. Do you think it is the role of hospitals or medical schools to take an active part of educating towards a healthy lifestyle?

Yes, the President mentions the name of Dr. Naama Constantini. According to him, Dr. Constantini, an important figure in this field, attends sport centers committee meetings and is an advocate of physical
activity in disease prevention. I hope her leadership will result in the inclusion of a course in this field being added to the curriculum.

12. What is more financially worthwhile, in your opinion – investing in education for health, or improving medical infrastructures (equipment, staff, construction) in order to improve the general level of health in the population?

From the perspective of the University's role as an institution it is to improve the research and teaching infrastructure. If, by "health infrastructure" you mean sports infrastructure, then I believe it is better to invest in this than in education (referring probably to theoretical education) because education begins with action. If you mean medical equipment infrastructure, prevention education is preferable.

13. Students in clinical years – have you, and if yes – to what extent – been exposed to doctors who recommended that their patients to adhere to a healthy lifestyle (regular physical activity, smoking cessation, eating healthy food, losing weight etc.)? To what extent did you do it yourself?

14. Do you have any further comments?

15. CEO, Dean, President – where are we at the moment?

According to the President, the process has two stages: the long-term stage involves appointing a fundraiser for the project whose goal is to build an all-purpose building in four years time. The short-term stage is the finding of interim solutions through discussions with the Deans of Medicine and Dentistry. I have not yet met with the University CEO but I will do it as a result our meeting.

The President indicated that on 10/10/2010 (the beginning of the 5771 academic year), a "Sports Happening" and green public activity day is planned for all campuses.
Appendix: Measuring smoking-induced air pollution on the Ein Kerem campus and recommendations in the literature
Measurement of Smoking-Induced Air Pollution: The Ein Kerem Campus as a Model for Promoting Public Health Policy

Seminar Paper by Ms. Sabina Melnick

Supervised by Prof. Mayer Brezis, with assistance from Ms. Lois Gordon of The Hadassah Center for Clinical Quality and Safety

Additional advisors:

Dr. Leah Rosen, The School of Public Health, Tel Aviv University
Dr. Mark Travers, Research Scientist, Division of Cancer Prevention and Population Sciences, Roswell Park Cancer Institute, Buffalo, New York, USA

August, 2010

Summary: A toxic level of smoke-induced air pollution of up to thirty times the recommended level was recorded at the Ein Kerem Campus. The measurements were recorded using a laser photometer over the course of several days, during the summer of 2010, in public non-smoking areas near the hospital's main entrance and in the main courtyard of the Faculty of Medicine and Dentistry. Cigarette smoke-induced air pollution at the levels measured is unsafe for visitors, patients, healthcare workers and other employees, as well as for students and teachers. Our recommendation, based on these findings and the literature review, is that the Ein Kerem Campus be designated a smoke-free campus, as other leading healthcare institutions in the world.

Graduate Seminar Submitted by: Sabina Melnick, I.D. 304246804/Junior Year/Medical School/The Hebrew University of Jerusalem
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Bibliography
Abstract

Passive smoking has become an important public health issue. Studies indicate that inhaling secondhand smoke results in higher morbidity, notably in children and adults with pulmonary diseases; and increased risk of lung cancer and coronary heart disease.

Israel ranks relatively high in terms of percentage of smokers (about 25% of the population). The extent of exposure for the 75% of non-smokers in the country depends on the proximity to and the time spent around smokers. The workplace plays a large part in determining exposure to passive smoking. Additional factors such as genetics, gender, age and other socio-economic factors also play a role.

Smoking legislation in Israel is the first step in the eradication of smoking from the workplace and public areas. Exposure to passive smoking is currently perceived as both a nuisance and a risk factor. This is an optimal time to promote legislation leading to smoke-free public places, which reflects the current global picture, particularly in Europe and in the United States. There is a public awareness and a readiness to act on this issue, and according to surveys conducted in Israel, the willingness to oppose and condemn smoking.

Many institutions around the world, such as the Mayo Clinic, have banned smoking from their campuses by instituting long-term programs for comprehensive policy change in this area (see appendix). Studies report that laws limiting smoking substantially reduce smoke-induced air pollution, without any adverse financial effect on companies enacting these laws.

Healthcare institutions deal with both treatment AND prevention and it is fitting that they lead the way in promoting a smoke-free campus policy. Legally and ethically, it is Hadassah’s duty to provide a healthy and safe environment for its employees, patients and visitors. The medical establishment plays a crucial role in reducing both active and passive smoking. Although most smokers are aware of the many personal risks involved in smoking, they may not be aware of the risks in exposing their children, family, friends and colleagues to passive smoke.
Measurements taken in various areas around the hospital and the Faculty of Medicine indicated that air pollution in these areas is considerably higher than recommended safe levels. Due to the proximity of these improvised smoking areas to the building entrances, air pollution in the lobbies of the buildings is also considerably higher than recommended. Hadassah and Faculty of Medicine employees, including doctors and nurses, smoke outside in non-designated areas. This conveys an inappropriate message to hospital visitors, as well as to the many students who are the future generation of caregivers in the Israeli health system.

A comprehensive list of recommendations for a smoke-free campus policy that have been successfully implemented in many campuses around the world is presented in the appendices of this paper. Based on the findings and the literature review, it is only fitting that Hadassah Ein Kerem should become a smoke-free campus like other leading hospitals in the world, and lead the way for other healthcare institutions in Israel.
Introduction

This study measures the air pollution levels caused by cigarette smoke at the Hadassah Ein Kerem Medical Center in comparison with those of university hospitals around the world, and discusses public health implications. A "desired" level of air pollution is discussed and the feasibility of reaching this goal at Ein Kerem. A review of literature on smoking, with an emphasis on passive smoking was carried out. Random measurements were taken of tobacco-induced air pollution levels in selected areas at the Hadassah Ein Kerem Medical Center.

Steps taken in recent years to eliminate smoking in public places, particularly passive smoking, have been through legislation, education, budgeting and other innovative courses of action. Progress in Israel could be achieved now by a policy change to be launched by healthcare institutions such as Hadassah Medical Center and the Faculty of Medicine at Ein Kerem.

Many medical centers across the world have introduced indoor and outdoor smoke-free campus policies for the safety of their employees, patients and visitors, thereby strengthening their beliefs and commitment to this issue\textsuperscript{[1]} . In the U.S. alone, 2,417 medical institutions have adopted this policy\textsuperscript{[2]}. Workplaces, notably medical centers, have a legal and ethical obligation to provide a healthy environment.

Chapter 1 – Literature review

Definitions

Active smoking – active, conscious and deliberate inhalation by smokers of cigarette paper-wrapped tobacco and its ingredients by burning. The tobacco can also be pressed into a nargila (hookah), pipe or any other container. Over time, a nicotine-dependency develops. It is estimated that there are 1.3 billion adult smokers in the world and that number is constantly increasing\textsuperscript{1}.

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\textsuperscript{1} Although a few developed countries claim that tobacco smoking is under control.

\textsuperscript{2} There is a decrease in the pollution level of passive smoking due to the controlling of smoking in public places (21, 22).
**Passive smoking** – non-active, non-conscious and non-deliberate yet imposed inhalation of the tobacco smoke and its ingredients by non-smokers who are near active smokers (usually at home or work). This phenomenon is also known as secondhand smoking (SHS), environmental tobacco smoking (ETS) or imposed smoking. It is estimated that passive smoking is unavoidable for children and 2/3 of adult non-smokers in the world\(^2\). Passive smoking is a mixture of the cigarette smoke exhaled by the smoker (main stream smoke – MS) and the cigarette smoke in the cigarette itself (side stream smoke - SS\(^3\)). There is a quantitative difference between MS (emitted smoke) and SHS (passive smoking), but no qualitative difference between the two. Non-smokers' health is affected by passive smoking just as smokers' health is affected by MS.

**Level of cigarette-produced pollution – RSP (Respirable-Suspended Particles)** – air pollution is measured by respirable particles which are present in the air and are emitted in large quantities from a burning cigarette. The maximum recommended by the EPA\(^4\) safe level for exposure to these particles is 65 [\(\mu g/m^3\)] and the annual average level is 15 [\(\mu g/m^3\)].

**Background and statistical data [3]**

**Smoking among adults in Israel [4]**

The percentage of smokers in Israel in 2009 was 22.8%; approximately one quarter of the population. The rate of smoking among Jewish men is 27.9%; among Arab men, 48.8%; among Jewish women, 16.6%; and among Arab women, 5.2%. There has been no change in the smoking rates among Jewish men but smoking among Jewish women has slightly decreased as compared to 2008. The rates among Arabs remain high among men and low among women.

As compared to OECD member countries\(^5\) the smoking rate among men in Israel appears to be relatively high\(^6\) (Graph 4 in the Appendices). Smoking rates among women in Israel is ranked relatively low.

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\(^3\) SS has a higher concentration of the cigarette's toxic ingredients, so that it is diluted in the air much faster.

\(^4\) U.S. Environmental Protection Agency.

\(^5\) OECD – Organization for Economic Co-operation and Development.

\(^6\) Rates for Israel refer to people over 21 years of age, whereas in most of other countries rates refer to people over 15 years of age. This fact also contributes to Israel's high ranking comparing to the other countries.
Smoking among youth in Israel

Surveys indicate that 1.1% of Arab students smoke on a daily basis and 2.9% of the students smoke occasionally, as compared to 1.6% and 5% reported by Jewish students in 2008.

An association was found between parents' and children's smoking. The lowest smoking rate was among students whose parents do not smoke (3.4%), whereas the highest rate was found among students reporting that both parents smoke (19.8%). The smoking rate was 4.9 times higher among students reporting that their mothers smoke as compared to students reporting that neither parent smokes.

Effects of passive smoking

Conclusions on the effects of passive smoking are based on extensive epidemiological studies that showed a direct association between the extent of passive smoke exposure and disease.

Adults [55]

The term "passive smoking" was coined in 1939 [5]. The first epidemiological studies on the association between health and second-hand smoke were published in 1960 [6-8]. A report by the U.S. Surgeon General in 2006 attested to the harmful effects of passive smoking on health, which are caused by inhaling carcinogenic substances (with the potential of causing DNA damage [9-11]) and other materials found in cigarettes [12]. While the quantities inhaled are higher in active smoking, it is important to note that the damage is cumulative and begins in infancy. Passive smoking among adults is defined as living with a smoking partner or working in an environment with no smoking limitations.

The data is based on a health condition survey of youth conducted in May 2009 by the Israel Center for Disease Control (ICDC) in conjunction with the Ministry of Education, among 5,268 eighth graders from the Arab sector as well as on a survey conducted in 2008 among 14,000 Jewish and Arab youth.

The U.S. Environmental Protection Agency defined passive smoking as Group A carcinogen [26] and the International Agency for Research on Cancer (IARC) reached a similar conclusion in 2002 [45] as well as the Surgeon General’s report of 2006. A high concentration of NNAL was found among second-hand smokers, a specific carcinogen originating in tobacco [33].

Cigarettes are a main source for the presence of particles in the air which are identical in size to those being examined by the Environmental Protection Agency.
Many organizations have reported associations between second-hand smoke and lung cancer\(^\text{10}\), among them the International Agency for Research on Cancer (IARC), the U.S. Surgeon General's Office, and the U.S. National Research Council [13-15]. It is estimated that 17% of cancer cases among non-smokers result from exposure to high levels of environmental smoke. A similar study found a 30% increased risk for cancer as a result of passive exposure [16]. Exposure to a smoker consuming 80 packs per year increases the risk to 80%. A genetic component was also found - polymorphism in the genes – glutathione S-transferase M1 (GSTM1) and GSTP1\(^\text{11}\) [17, 18].

A weak association was found for increased risk of coronary artery disease among passive smokers [19, 20-23]. It is estimated that exposure to passive smoking leads to approximately 40,000 heart disease-related deaths in the U.S. [24], reflecting the increase in risk for coronary diseases by approximately 20%-30%\(^\text{12}\) [25, 26, 27]. Several studies have shown that passive smoking affects vascular endothelial in a way not too different from active smoking [25, 28]. As a result of exposure to passive smoke, an increase was found in the presence of inflammatory markers, including: white blood cell count, reactive C protein levels, homocysteine, fibrinogen and LDL cholesterol [29]. Studies have shown that laws limiting smoking in workplaces and public places have reduced the levels of hospitalization caused by acute heart attacks\(^\text{13}\) [30, 31].

An increase in the risk of developing impaired glucose tolerance in young adults (18-30) who are exposed to passive smoking (32) was found in a 15-year follow-up study. Several other studies suggest that passive smoking is a risk factor for diabetes, although a cause-effect association was not found. In a case-control study, an association was found between smoking, especially at the workplace, and chronic rhinosinusitis [33].

Other studies suggested that passive smoking has a potential of causing respiratory tract damage as a result of inhaling tobacco smoke particles [34-40], although no association was found between a smokers in an open space and chronic respiratory symptoms [41-47].

Asthmatic patients and people with chronic obstructive pulmonary diseases (COPD) are at risk when exposed to passive smoke, although some studies

\(^\text{10}\) The risk for lung cancer among employees exposed to passive smoking in their workplace is 1.22 (95% CI 1.13-1.33) [38]. The risk for lung cancer among smokers' partners is 1.21 (95% CI 1.13-1.30).

\(^\text{11}\) GTS is assumed to play a role in detoxification of cigarette-originating carcinogens.

\(^\text{12}\) 27% (95% confidence interval 19-36 percent) [14]

\(^\text{13}\) (0.83, 95% CI 0.80-0.87)
failed to show an association [48-51]. A number of studies showed an improvement among asthmatic patients in workplaces where smoking limitations were enforced [40, 52].

An association was found between passive smoking and being in an irate mood [13, 53] as well as eye and respiratory tract discomfort.

These facts should serve as the foundation for creating smoke-free public spaces. The tobacco companies have been found guilty of concealing the above-mentioned facts and for misleading the public [54].

**Children [74]**

Morbidity and passive smoking in children is an important public health issue, both in terms of quality of life implications and medical care costs. Second-hand smoking among children is defined as living with one or two smoking parents; and/or as a fetus in the womb of a smoking mother (by active or passive smoking).

The first report on the detrimental effects of smoking on children's respiratory systems appeared in 1956 [56]. More recent reports, including that of the Surgeon General in 2006, include passive smoking as a risk factor for pre-natal death and sudden infant death syndrome (SIDS)\(^{14}\) and a cause of slower fetal growth and development (reduced natal weight, SGH\(^{15}\) [20, 57, 58]. Maternal smoking during pregnancy is a minor risk factor [22, 25, 60,] for the development of atherogenesis, middle ear defects and other congenital defects such as cleft palate and congenital heart diseases [59] and also affects quality of life and medical costs. Passive smoking during pregnancy increases the risk of low birth weight [61], congenital defects and mental retardation [60, 64] but not as much as active smoking during pregnancy.

School-age children of smoking parents have a higher risk of developing asthma and lung cancer\(^{16}\) and a higher rate of respiratory symptoms such as aggravated asthma, shortness of breath, cough, mucous, and poor pulmonary function. They are also absent more from school than children of non-smokers [13, 20, ...

\(^{14}\) Considered as the first cause for sudden infant death syndrome.

\(^{15}\) The cause later in life to diabetes and hypertension.

\(^{16}\) The risk for lung cancer among children of smoking parents is 1.11 (95% CI 0.94-1.31). Exposure during the nursing period leads to a risk of 1.15 (95% CI 0.86-1.52) and during the pregnancy period only – 1.10 (95% CI 0.89-1.36) [65].
An increase in the prevalence of asthmatic bronchitis and pneumonia was found among babies during their first year of life [68-72]. Numerous studies on the association between passive smoking and coronary heart disease have shown that second-hand smoking is associated with a decrease in HDL-C ("good cholesterol") and an increase in serum cholesterol [73]. Another association was found between parental smoking and a child's diminished physical activity and a high-fat diet [30]. Findings on the influence of passive smoking on children have led to an extensive educational program for parents on the potential dangers to their children's health.

Chapter 2: Background

From 1999-2004, 46% of the U.S. non-smoking population was exposed to passive smoking compared to 65% between 1988-1994 [75, 76]. Despite this downward trend, half of the U.S. population is still exposed to the detrimental effects of passive smoking.

The gross inconsistency between the proven detrimental effects of smoking and turning a blind eye to smoking in medical centers, led the U.S. to promote an initiative designed to make hospitals and clinics smoke-free facilities.

The Mayo Clinic pioneered the concept of a "smoke-free medical center". In 1986, this medical center announced that the Mayo Clinic would become a non-smoking campus: smoking would be banned for all personnel, hospitalized and ambulatory patients and visitors. Non-smoking areas would include all campus buildings, hospital wards, laboratories, offices and corridors. In addition, smoking would be banned in open areas, including vehicles within the medical center. Today, as aforementioned, 2,417 smoking-free medical centers operate in the U.S. (list of institutes in Appendix 6).

The Israeli Non-Smoking in Hospitals Law (2004) [78] bans smoking in hospital entrances, rooms, corridors and elevators. The hospital management must enforce this law, and conduct "quit smoking" programs for personnel. The earlier law, the Restriction on Smoking (Public Places) Law of 1983, prohibited smoking in public places. In 2007, the Restriction on Smoking (Workplaces and Public Places) Law (Amendment PP 2), 2007 was enacted, further reinforcing the smoking ban and raising the issue of a total ban on smoking in public places.

17 Hyper Active Airway Disease.
The aim of this law is to ban smoking in all public facilities and prevent public exposure to secondhand smoke.

The ban on smoking in public places, including workplaces, was designed to protect non-smokers from the detrimental effects of passive smoking. At the same time, the ban on smoking in public places could have a positive affect on smokers by creating a smoking-free environment and encouraging a reduction in the number of cigarettes smoked and even giving up smoking.

A survey conducted by the Ministry of Health in 2009 reported that 31.6% of Jewish smokers and 27.7% of Arab smokers reported smoking less since the enactment of the law. The majority of former smokers (62.4% of the Jewish and 50% of the Arab) reported they had stopped smoking prior to the enactment of the law.

Most men (63.4%) and women (76.3%) in Israel believe that the law is fully enforced in their workplace and that there has been an increase in reporting illegal smoking. This belief is more common among Jews (both men and women) than Arabs. More than one third of non-smokers feel comfortable reporting smoking in a non-designated area, an increase over 2006 (see graphs in Appendix 1).

Many studies have reported positive effects of laws restricting smoking on air pollution levels. In Massachusetts, an environmental and economic evaluation of the law banning smoking in workplaces demonstrated the positive influence of the law on the health of customers and employees, as well as on the companies, concerned about loss of income. A 93% decrease in air pollution has been recorded since the law went into effect. No statistically significant economic indicators were reported prior to or following implementation of the law [82].

A revolutionary law banning smoking in Irish pubs has led to a 93% decrease in air pollution as compared to pubs where no restrictions were in effect. [83]. A similar conclusion was reached in a Hungarian study of air pollution levels prior to and following implementation of a similar law. Air pollution levels were 18 times higher in places permitting smoking compared with places banning smoking and exceeded the harmful levels set by the World Health Organization [84]. Air pollution levels can be substantially reduced through legislation and strict enforcement of no smoking policies.

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18 An analysis of taxation on food, occupation in the areas of food and beverage industry and the accommodation and housing industry.
The results of an Israeli survey indicated that air pollution due to smoking in bars, pubs and cafes in Jerusalem and Tel Aviv decreased by 34% following implementation of the law. Unexpectedly, RSP levels in bars in Israel and Tel Aviv in particular, remained much higher than recommended levels. In contrast to Israel, similar laws in other countries have been successful in changing people’s smoking habits in bars. [85].

One survey examined the influence of different levels of laws banning smoking on air quality. It appears that when comprehensive laws banning smoking are implemented, there is a considerable decrease in air pollution from 161 [$\mu$g/m$^3$] to 20 [$\mu$g/m$^3$]. In communities where anti-smoking laws have been gradually implemented, the results were 304 [$\mu$g/m$^3$] prior to the law coming into force; 338 [$\mu$g/m$^3$] following the implementation of partial laws and 9 [$\mu$g/m$^3$] following implementation of a more comprehensive law. The study clearly shows that partial laws concerning smoke-free air will not reduce levels of pollution. **Only comprehensive laws for smoke-free air are effective in reducing air pollution** [86].

Since 1989, Hadassah Hospital has been working towards reducing smoking in the hospital with the aim of eventually banning cigarette smoke from the campus. There are designated smoking areas, appropriate signage banning smoking on hospital grounds and a policy-enforcement inspector. In addition, the Personnel Clinic has organized a comprehensive publicity campaign and a "stop smoking" program for staff, run by the clinic's doctors and nurses.
On December 1, 2000, the Hadassah Hospital in Jerusalem was declared a "smoke-free" campus, authorizing inspectors to patrol and impose fines of 200 Israeli shekels on violators. More details on the current situation can be found in Chapter 3.

Chapter 3 – The current study

Study purpose - The study was designed to measure the extent of exposure to passive smoking in order to enlighten both the public and decision makers.

Study hypothesis – What is the level of RSP in the Hadassah Ein Kerem Medical Center in main public areas?

Methodology – Measure level of RSP on different days and times. The level of passive smoking can be measured by the presence of particles in the air originating in cigarette smoke and by measuring biological markers of particles originating in cigarette smoke and their metabolites in the blood, urine, saliva and hair of non-smokers (such as cotinine, a metabolite of nicotine).

A SidePak Aerosol Monitor, a precise instrument used in many similar studies in the U.S., was purchased for measuring the presence of particles in the air. Dr. Leah Rosen of the School of Public Health of Tel Aviv University and Dr. Mark Travers, Research Scientist, Division of Cancer Prevention and Population Sciences, Roswell Park Cancer Institute, Buffalo, New York, USA., both of whom have experience with the SidePak, were consultants in this project.

Research tool – a SidePak Aerosol Monitor measures the level of particles originating in cigarette smoke (technical specifications in Appendix 5). In a smoking environment, it is easy to measure particles of tobacco smoke in the air, including small particles that can penetrate the lungs (carbon dioxide, nicotine\textsuperscript{19} and benzene\textsuperscript{20}). The concentration of smoking particles depends on the number of smokers and their smoking habits, size of the smoking area and the speed of air delivery, which depends on wind speed at the time and the measurement site.

\textsuperscript{19} A smoking environment contains high levels of Nicotine which is in a state of gas. Passive smoking is the exclusive source for the presence of Nicotine [79]. It very rarely originates from food.

\textsuperscript{20} A risk factor for Leukemia. Passive smoking is a significant source for the presence of Benzene which exceeds also living in proximity to industrial petrol products plant.
The precision of measurement of the SidePak is well-established in the literature (Klepeis NE at al. Real-time measurement of outdoor tobacco smoke particle. Air & Waste Management Association 2007; 57:522-534.)

The device was calibrated daily before measurements were taken. The SidePak displays and data logs aerosol concentration in real time. Maintenance was done in accordance with the manufacturer's instructions. Following measurements, the data was downloaded and analyzed using TrakPro version 4.4.0.5.

During operation, observations were also recorded and occasional photographs taken of the number and location of smokers outside the designated smoking areas.

Research location – Potential sites of illegal smoking: courtyard of the entrance to the main Hospital building and to the emergency room, the medical school courtyard adjacent to the School of Dentistry. All measurements were taken outside smoking-designated areas.

In the above photos, many smokers are seated by the hospital's main entrance (on the right) and around the main courtyard of the Faculty of Medicine (on the left), outside of smoking designated areas. This is important in the interpretation of the measurements of air pollution present in relation to the number of smokers.

Research results – Air pollution levels in the areas tested always exceeded the recommended levels of the EPA (U.S. Environmental Protection Agency) which is 65 [μg/m³]. The levels sometimes exceeded 2000 [μg/m³] - 30 times the recommended threshold. Areas where consistently high values were measured were the main entrance to Hadassah Ein Kerem and the entrance to the...
emergency room, where average values of 100-200 [μg/m³] were recorded on a regular basis. This is not surprising since along with the presence of signs banning smoking near the entrance to the main building are ashtrays which legitimize smoking. Hadassah employees tend to smoke there as well as visitors and patients. There is a constant smell of cigarette smoke in the building's lobby, near the entrance, where high levels of air pollution were also recorded. A similar study indicated a direct association between outdoor smoking and the level of air pollution inside the building. In addition, a 100% increase in the level of the external air pollution is related to an increase of 36.1% in the exposure to internal air pollution$^{21}$ [87]. The measurements at the Faculty of Medicine and the School of Dentistry courtyards also showed high levels, similarly to those mentioned above, every time several smokers were present in the courtyard.

In the public areas tested, a level of pollution exceeding recommendations was recorded, and is most probably due to (see recommendations for improvement in Appendix 2):

1. Presence of smokers outside smoking-designated areas where measurements were taken
2. Central location of smoking areas
3. Lack of ventilation in enclosed courtyards

Research limitations and potential biases – the research was conducted during the summer, when the number persons in the Faculty of Medicine were relatively sparse. Despite this, toxic levels of air pollution were measured as soon as several smokers were in the courtyard area. Furthermore, several tests were conducted as opposed to one continuous measurement, which may suggest an underestimation of pollution levels. It is important to note that highly toxic levels were found nearly every day.

Is it possible that a forest fire near Hadassah at the time of the study influenced the measurements? The answer is unequivocally "no", since most of the measurements were taken before the fire. Measurements taken up to seven days after the fire, showed low values of pollution in areas far removed from smokers, and high values in their proximity (a few meters away).

Is it possible that the measurements were affected by pollution from the construction sites on the hospital grounds? Once again, the answer is unequivocally "no". Low values were recorded in areas far removed from

$^{21}$ (95% CI 2.4%-80.9%)
smokers, and high values in the proximity of smokers, even at a distance of a several meters. There was a considerable distance between these open areas and designated smoking areas, where the levels immediately increased. As previous mentioned, these measurements were not taken in smoking-designated areas but rather outside, at a distance of at least several meters.

However, as noted, there is no enforcement of smoking regulations and many smokers are present at all times everywhere in the courtyard both at Hadassah and at the Faculty of Medicine.

Chapter 4 - Discussion and Conclusions

In Israel, 25% of the population smokes and as a result, the other 75% is forced to become second-hand smokers. Among those smokers are doctors, nurses, and laboratory technicians, all of whom know about the hazards of smoking.

San Francisco is an example of a city with a comprehensive change in smoking policy. For several years the city has been running a "Tobacco-free City" Project, funded by tobacco taxes which were imposed in 1988. The program's guidelines, backed by the state of California, include: reduction of exposure to environmental tobacco smoke; reduction of underage access to tobacco products; and opposition to sources encouraging tobacco use.

In 1994, San Francisco became a city protected from passive smoke exposure in the workplace. Education and information on the risks of passive smoking led to wide public support and in legislation banning smoking in the workplace, outdoor areas of restaurants, common public areas and around multiple housing units, farmer markets, homeless shelters, bingo establishments, ATM lines, concerts, cinemas, sport events, taxies, buses and within a 15-meter radius from entrances to business establishments. There has been wide public support since the law was enacted. According to a random telephone survey conducted in 2002, more than 70% of adults in San Francisco forbid smoking in their homes.

About a decade ago, Hadassah Medical Center set a goal to be a leader in the fight against cigarette smoking, but the time wasn't right. Today, active and secondhand smoking are recognized as health hazards (according to data appearing in the chapter "Trends"), and it is only fitting that Hadassah become a leader in the campaign for a smoke-free campus.
A long-term comprehensive strategy is needed and must include: education, regulation, legislation and enforcement. First and foremost, there is a need for a convincing educational campaign to help ensure that the medical center is a smoke-free facility. The campus of the Faculty of Medicine, as many other campuses around the world, can be turned into a smoke-free area. The Hadassah campus must remove smokers from courtyards. This can be accomplished by publicizing and enforcing existing regulations. Simultaneously, health professionals must quit smoking and educate their patients to quit smoking. Smoking regulations and laws must protect non-smokers and promote a healthy, smoking-free environment. If an institution decides to define itself as a smoke-free facility, it must provide "quit smoking" programs for its employees. A ban on selling cigarettes and cigarette ads will also be helpful [80]. There is firm evidence that a similar policy in the U.S. led to a reduction in passive smoking [57, 58].

If this process succeeds, we will be able to answer the real question – has there been a decrease in passive-smoking-related diseases.

Conclusion

Passive smoking is common in Israel and results in exposure to carcinogenic materials. It has clinical implications regarding the health of children and adults suffering from chronic respiratory tract problems, such as asthma and obstructive pulmonary disease. In terms of public health, passive smoking increases the risk of both lung cancer and certain types of heart disease. In comparison to other environmental pollutants, it is relatively easy to control and eliminate.

"The time has come for medical institutions in Israel to adopt non-smoking policies, along the lines of the U.S. Smart medicine must allocate resources to prevent diseases that good medicine can cure. We can't wait years for anti-smoking legislation - we have to act NOW, by enacting non-smoking regulations in ALL public medical institutions in Israel. This will prevent smokers' from being allowed to choose to be hospitalized in institutions that permit smoking, and convey the message that the medical establishment in Israel will not tolerate smoking in places trying to cure patients, some of whom have become ill as a result of smoking".

Prof. Ami Ben Sela, March 2004

*On the subject of a law to limit smoking in hospitals: why is it so difficult to implement a logical, healthy and moral law in Israel?*
Appendices

Appendix 1 – Implementation of the Law Banning Smoking in Israel

Graph 1 – Implementation of the law banning smoking in the workplace, by gender (%)

KAP Survey 2008-2009

KAP Survey 2006
Graph 2 – Implementation of the Law Banning Smoking in the Workplace by Ethnic Group and Age (\%)
(KAP Survey 2008-2009)

Extent of implementation

Graph 3 – Non-smokers Willingness to Report Smokers by Gender (\%)
KAP Survey 2008-2009 in comparison to Survey 2006 KAP

Willingness to report smokers
Graph 4 – Percentage of Male Smokers in Israel and in Selected OECD Countries

2007-2009

- Greece (2008) 46.3%
- Turkey (2008) 43.8%
- Japan (2008) 39.5%
- Netherland (2007) 32.0%
- Israel (2009) 31.3%
- Ireland (2007) 31.0%
- Italy (2008) 28.9%
- Finland (2007) 26.8%
- Belgium (2008) 24.0%
- Switzerland (2007) 23.4%
- Luxemburg (2008) 23.0%
- England (2007) 22.0%
- Norway (2008) 21.0%
- Iceland (2007) 20.7%
- Canada (2007) 20.3%
- New Zealand (2007) 19.3%
- Australia (2007) 18.0%
- U.S. (2007) 17.1%
Appendix 2 - Suggested ways of action to promote a smoke-free campus and hospital [81]

- Promote a non-smoking policy in closed areas and in crowded open areas. Reduce current designated smoking areas and remove them from access roads and building entrances. Smoking areas should not be situated underneath office balconies or patient rooms.
- Designate smoking areas in accessible locations for smokers to facilitate observance of the policy.
- Place industrial fans in smoking-designated areas.
- Install detectors and cameras in banned areas that are popular with smokers.
- Prohibit sale of smoking accessories on campus to help reinforce the concept of a smoke-free campus.
- Begin an intensive campaign with clear, prominent signs.
- Raise the issue of smoking by medical personnel in staff meetings and reinforce the message that smoking is hazardous to everyone's health. Using the 5-A model is one possibility (Ask, Advise, Assess, Assist, Arrange Follow-up).
- Allocate resources for the enforcement of these procedures.
- Plan for a long-term smoke-free campus policy. Implement the process in stages in order to both prepare the required infrastructure and gradually change existing perceptions.
- Set and publicize a reasonable target date for launching the policy.
- Concurrently establish "quit smoking" support groups/workshops for patients and hospital staff.
- Checkout other organizations' websites and recommendations for smoke-free health policies.

Possible Obstacles

- Need for campaign budgets
- Need for enforcement personnel
- Prioritizing resource allocations
- Laws and regulations are initiated by the Ministries of Health and Justice and must be passed into law by the Knesset
- Intellectual inertia
- Counter interests of tobacco companies
- "What is the damage after all?"
- Smokers' complaints
- Fear of losing patients as a result of enforcing the non-smoking policy
Appendix 3 – Summary of measurements results

<table>
<thead>
<tr>
<th>Measurement No.</th>
<th>Date</th>
<th>Average</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>16/06/2010</td>
<td>75 [μg/m³]</td>
<td>29 [μg/m³]</td>
<td>399 [μg/m³]</td>
</tr>
<tr>
<td>2</td>
<td>16/06/2010</td>
<td>49 [μg/m³]</td>
<td>29 [μg/m³]</td>
<td>241 [μg/m³]</td>
</tr>
<tr>
<td>3</td>
<td>30/06/2010</td>
<td>40 [μg/m³]</td>
<td>31 [μg/m³]</td>
<td>67 [μg/m³]</td>
</tr>
<tr>
<td>4</td>
<td>01/07/2010</td>
<td>62 [μg/m³]</td>
<td>22 [μg/m³]</td>
<td>801 [μg/m³]</td>
</tr>
<tr>
<td>5</td>
<td>01/07/2010</td>
<td>55 [μg/m³]</td>
<td>24 [μg/m³]</td>
<td>2189 [μg/m³]</td>
</tr>
<tr>
<td>6</td>
<td>05/07/2010</td>
<td>53 [μg/m³]</td>
<td>34 [μg/m³]</td>
<td>84 [μg/m³]</td>
</tr>
<tr>
<td>7</td>
<td>05/07/2010</td>
<td>47 [μg/m³]</td>
<td>35 [μg/m³]</td>
<td>85 [μg/m³]</td>
</tr>
<tr>
<td>8</td>
<td>05/07/2010</td>
<td>75 [μg/m³]</td>
<td>34 [μg/m³]</td>
<td>496 [μg/m³]</td>
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<tr>
<td>9</td>
<td>19/07/2010</td>
<td>66 [μg/m³]</td>
<td>60 [μg/m³]</td>
<td>71 [μg/m³]</td>
</tr>
<tr>
<td>10</td>
<td>29/07/2010</td>
<td>46 [μg/m³]</td>
<td>9 [μg/m³]</td>
<td>281 [μg/m³]</td>
</tr>
<tr>
<td>11</td>
<td>24/08/2010</td>
<td>67 [μg/m³]</td>
<td>12 [μg/m³]</td>
<td>324 [μg/m³]</td>
</tr>
<tr>
<td>12</td>
<td>25/08/2010</td>
<td>86 [μg/m³]</td>
<td>0 [μg/m³]</td>
<td>504 [μg/m³]</td>
</tr>
<tr>
<td>13</td>
<td>30/08/2010</td>
<td>68 [μg/m³]</td>
<td>12 [μg/m³]</td>
<td>285 [μg/m³]</td>
</tr>
</tbody>
</table>

Meaning of values from

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22 All measurements were taken outside smoking designated areas. The data refers to measurements taken as follows: half the time was dedicated for the emergency room courtyard and the hospital main building and the other half for the Medical and Dentistry School courtyard.
<table>
<thead>
<tr>
<th>Air Quality Index Levels of Health Concern</th>
<th>PM$_{2.5}$ (µg/m$^3$)</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good</td>
<td>≤15</td>
<td>Air quality is considered satisfactory, and air pollution poses little or no risk.</td>
</tr>
<tr>
<td>Moderate</td>
<td>16-40</td>
<td>Air quality is acceptable; however, for some pollutants there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution.</td>
</tr>
<tr>
<td>Unhealthy for Sensitive Groups</td>
<td>41-66</td>
<td>Members of sensitive groups may experience health effects. The general public is not likely to be affected.</td>
</tr>
<tr>
<td>Unhealthy</td>
<td>66-150</td>
<td>Everyone may begin to experience health effects; members of sensitive groups may experience more serious health effects.</td>
</tr>
<tr>
<td>Very Unhealthy</td>
<td>151-250</td>
<td>Health alert: everyone may experience more serious health effects.</td>
</tr>
<tr>
<td>Hazardous</td>
<td>≥251</td>
<td>Health warnings of emergency conditions. The entire population is more likely to be affected.</td>
</tr>
</tbody>
</table>
Appendix 4: Actual Recordings of RSP at Ein Kerem (recommended safe level is at 0.065 mg/m³).
Appendix 5: Technical Specification

SidePak AM510 Personal Aerosol Monitor

A TSI SidePak AM510 Personal Aerosol Monitor (TSI, Inc., St. Paul, MN, www.tsi.com) is used to sample and record the levels of RSP in the air. The SidePak uses a built-in sampling pump to draw air through the device where the particulate matter in the air scatters the light from a laser. Based on the amount of light scattered the device displays the real-time concentration of particles in milligrams per cubic meter. The device weighs slightly over one pound and measures 5.1 in. x 3.7 in. x 2.8 in. The aerosol monitor is fitted with a 2.5 μm impactor in order to measure the concentration of particulate matter with a mass median aerodynamic diameter less than 2.5 μm, or PM$_{2.5}$. Particles of this size are referred to as “fine particles” and are released in large quantities from burning cigarettes. Fine particles are easily inhaled deep into the lungs and are associated with adverse health effects. The impactor is designed to remove half of the particles at 2.5 μm and larger particles with increasing efficiency. The SidePak continuously measures the particle concentration and is set to record into memory the average level every one minute. The recorded measurements can later be downloaded to a PC for analysis.
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75. National Health and Nutrition Examination Survey (NHANES)
81. action on smoking and health Australia / www.ashaust.org.au


WEBSITES:

AMERICANS FOR NONSMOKERS' RIGHTS
http://www.no-smoke.org/

GLOBAL SMOKEFREE PARTNERSHIP
http://www.globalsmokefreepartnership.org/

ARTICLES:

A PRACTICAL TOOL FOR HOSPITALS AND HEALTH SYSTEMS
http://www.vahealth.org/cdpc/TUCP/smoke-free/

MAKING YOUR COLLEGE CAMPUS TOBACCO-FREE
http://smokefreeoregon.com/

GUIDE FOR A TOBACCO-FREE CAMPUS
http://www.ashaust.org.au/

U.S. COLLEGE AND UNIVERSITIES WITH SMOKEFREE AIR POLICIES
http://www.no-smoke.org/goingsmokefree.php?id=447

100% SMOKEFREE U.S. HOSPITALS AND NURSING HOMES
http://www.no-smoke.org/goingsmokefree.php?id=449

AMERICAN CANCER SOCIETY: ADVOCATING FOR A TOBACCO-FREE CAMPUS
http://our.cancer.org/docroot/COM/content/div_NE/COM_4_2x_Smoke-Free_New_England.asp
REAL-TIME MEASUREMENT OF OUTDOOR TOBACCO SMOKE PARTICLES

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Stanford University, Stanford, CA 94305 USA

May 1, 2007

ABSTRACT

The current lack of empirical data on outdoor tobacco smoke (OTS) levels impedes OTS exposure and risk assessments. We sought to measure peak and time-averaged OTS concentrations in common outdoor settings near smokers and to explore the determinants of time-varying OTS levels, including the effects of source proximity and wind. Using 5 types of real-time airborne particle monitoring devices, we obtained more than 8,000 min worth of continuous monitoring data, during which there were measurable OTS levels. Measurement intervals ranged from 2 sec to 1 min for the different instruments. We monitored OTS levels during 15 visits to 10 outdoor public places where active cigar and cigarette smokers were present, including parks, sidewalk cafés, and restaurant and pub patios. For 3 of the visits, and during 4 additional days of monitoring outdoors and indoors at a private residence, we controlled smoking activity at precise distances from monitored positions. The overall average OTS respirable particle concentration for the visits to public places during smoking was about 30 μg m\(^{-3}\). OTS exhibited sharp spikes in particle mass concentration during smoking that sometimes exceeded 1,000 μg m\(^{-3}\) 3 at distances within 0.5 m of the source. Some average concentrations over the duration of a cigarette and within 0.5 m exceeded 200 μg m\(^{-3}\), with some average downwind levels exceeding 500 μg m\(^{-3}\). OTS levels in a constant upwind direction from an active cigarette source were nearly zero. OTS levels also approached zero at distances greater than about 2 m from a single cigarette. During periods of active smoking, peak and average OTS levels near smokers rivaled indoor tobacco smoke concentrations. However, OTS levels dropped almost instantly after smoking activity ceased. Based on our results, it is possible for OTS to present a nuisance or hazard under certain conditions of wind and smoker proximity.

IMPLICATIONS

This article is the first peer-reviewed publication of systematic measurements of outdoor tobacco smoke (OTS) concentrations.

*Corresponding author. Please visit http://klepeis.net

INTRODUCTION

Secondhand tobacco smoke (SHS), also called environmental tobacco smoke (ETS) or passive smoke, is defined as diluted and dispersed air pollutant emissions generated from the consumption of tobacco products. Emissions may be exhaled by a smoker (mainstream) or leave the burning tip of a cigarette or cigar (sidestream). When occurring outdoors, SHS is called outdoor tobacco smoke (OTS).

Indoor SHS has an established connection to adverse health outcomes in adults and children, such as asthma, respiratory infection, and lung cancer.\(^1\) More recent work has shown an association between SHS exposure and reduced cognitive ability in children,\(^2\) increased respiratory disease in adults from work exposure and increased cancer for people exposed at home as children,\(^3\) increased coronary heart disease in women exposed at home or work,\(^4\) and a general increase in mortality for persons living with smokers.\(^5\) The US Surgeon General’s Report entitled "The Health Consequences of Involuntary Exposure to Tobacco Smoke" concludes that there is no level of exposure to SHS without some associated risk,\(^6\) and the California Air Resources Board recently designated SHS as a "toxic agent"\(^7\), a classification also given to pure compounds such as arsenic or benzene.\(^8\)

The body of evidence demonstrates clear harm from SHS exposure and supports the pursuit of exposure reduction policies. In 1995, California Assembly Bill 13 was passed, which effectively banned smoking inside eating and drinking establishments throughout California. Other state or country-wide initiatives that ban smoking inside bars and restaurants also have
been enacted.9

Cities and counties have just started to institute bans on outdoor smoking, such as for parks and beaches.10 Bans may be supportable due to the drift of OTS inside buildings or from the littering of cigarette butts. Outdoor smoking bans may also serve to discourage smoking behavior in general, by making it more difficult for smokers to find a place to light up or by preventing children from associating smoking with enjoyable outdoor activities. However, the ongoing debate over the appropriateness of outdoor bans from an exposure standpoint suffers from a lack of air monitoring data. To date, no data have been published in the archival literature on the systematic measurement of human exposure to OTS. To meet this need, we performed OTS monitoring surveys and controlled OTS experiments in public outdoor locations and a private residential patio using state-of-the-art, real-time particle sensing instruments. These instruments were anticipated to be useful for pinpointing and understanding transient elevations in OTS pollution. We expect that the results of our study will be helpful to those involved in tobacco-related policy development, as well as to risk assessors and environmental epidemiologists.

METHODS

While there are many potentially toxic compounds in both the gaseous and particle phases of secondhand tobacco smoke (SHS),11,8 for the present work we used airborne particle concentrations to characterize SHS levels. The use of particles to indicate the presence of SHS is common practice.12 Airborne particles comprise a significant portion of the sidestream and mainstream mass emissions from burning cigarettes and other tobacco products, and indoor particle concentrations associated with SHS are substantial.13 The size range of SHS particles is roughly 0.02 to 2 µm,14 so that all SHS particles fall within the PM2.5 and respirable suspended particle (RSP; also called PM1.5) size ranges, which consist of particles with diameters under 2.5 and 3.5 µm, respectively. When inhaled, these particles can deposit in the human lung. Other benefits of using particles to characterize SHS are that particle concentrations can be measured using standard techniques, particles have a direct association with adverse health effects, and there are existing health standards for time-averaged particle concentrations.15

Since many types of portable continuous monitors for airborne particles are currently available, we decided for the present study to employ a range of different instruments to characterize dynamic outdoor tobacco smoke (OTS) levels in the field and under controlled conditions. The simultaneous use of multiple monitors of the same type and of different types allowed us to achieve a high level of confidence in measured OTS levels, and to perform intensive evaluations and comparisons of the instruments.

REAL-TIME MONITORS

We used 5 types of portable real-time airborne particle monitoring instruments to measure OTS concentrations at intervals ranging from 2 sec to 1 min. The monitor types included a piezoelectric microbalance (piezobalance; PZB), a photoelectric aerosol sensor (PAS), and three light-scattering photometers – an integrating nephelometer (NEPH), a laser particle counter (GRIMM), and a laser diode photometer (SIDEPAK). A brief summary of the characteristics of each real-time particle monitoring instrument, along with references to the scientific literature or manufacturers’ guides, is given in Table 1. We selected each instrument because of its sensitivity to tobacco smoke particles, rapid response time, portability, and/or proven reliability in the field. In addition to these instruments, we used a real-time hot wire anemometer to record air flow (0.01 m sec−1 threshold), temperature, and relative humidity every minute (VelociCalc Model 8386, TSI, St. Paul, MN).

The piezobalance (PZB) was designated as the reference particle mass monitor, because it provides direct measurements of respirable suspended particle (RSP) mass concentrations, and it has a long history of use with tobacco smoke. The PZB has been shown to agree well with reference pump- and filter-based RSP measurements. Ott et al.16 provide a review of prior studies that evaluated the PZB, including one by Sem et al.17, who report piezobalance mass readings for tobacco smoke to be within 15% of filter-based samples. Based on 9 recent experiments we performed in a 9 m3 chamber using cigarettes and incense as sources, we found that average mass readings of an impactor-equipped PZB were within about 10% of average mass concentrations determined from cyclone mass filter samples ($R^2 = 96\%$).

INSTRUMENT TESTING AND CALIBRATION

The NEPH, SIDEPAK, GRIMM, and PAS continuous monitors can be used to estimate RSP mass concentrations. However, it is essential to first calibrate them with respect to the specific aerosol under study. We tested, calibrated, and compared the monitoring instruments for a tobacco smoke source during a set of 14 side-by-side experiments in a 44 m3 room of a residence. For each experiment, a single cigarette was lit and allowed to burn by itself (smolder-smoke) for 4–10 min. Doors and windows were kept closed, except to clear smoke from the room in between experiments. The room SHS particle concentrations were measured during and after each cigarette burn period. We subtracted background particle levels, which were observed just before smoking began, from all readings. Over the range of relative humidities, which we measured during the experiments (40–70%), we found no influence of relative humidity on measured particle levels.

We calculated one conversion factor for each of 12 experiments where valid PZB readings were available (see Table 2) by taking the ratio of the fresh 5-min average for the PAS,
### TABLE (1): Characteristics of Five Real-Time Airborne Particle Monitors Used in the Present Work

<table>
<thead>
<tr>
<th>Monitor Type</th>
<th>Abbreviation</th>
<th>Description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piezobalance</td>
<td>PZB</td>
<td>The model 3511 (Kanomax, Inc., New York, NY) and model 8510 (TSI, Inc., St. Paul, MN) piezobalances measure respirable suspended particle (RSP) mass in units of $\mu g m^{-3}$ by passing an air stream though a 3.5 $\mu m$ size-selective particle impactor and onto a vibrating piezoelectric crystal. The frequency change in the crystal is converted to an average particle concentration with a resolution of about 10 $\mu g m^{-3}$, which we record automatically in 1-min intervals using a custom-built logging system.</td>
<td>Ott et al. $^{16}$ and Sem et al. $^{17}$</td>
</tr>
<tr>
<td>Nephelometer</td>
<td>NEPH</td>
<td>The model M903 integrating nephelometer (Radiance, Inc., Seattle, WA) uses a flash lamp and optical fi ter to measure a light scattering coeffi cient (“extinction coeffi cient”) for particles drawn into the instrument at intervals as small as 2 sec. The instrument does not include a size-selective inlet.</td>
<td>Brauer et al. $^{18}$ and Radiance Research $^{19}$</td>
</tr>
<tr>
<td>Laser photometer</td>
<td>SIDEPAK</td>
<td>The model AM510 Sidepak (TSI, Shoreview, MN) is a 90-degree light scattering system using a 670 nm laser diode that is pre-calibrated by the manufacturer using Arizona road dust to measure aerosol mass in units of mg m$^{-3}$. In the present work, we equipped the monitor with a 2.5 $\mu m$ impactor and used the internal logger to record levels at intervals as small as 10 sec. Prior to each monitoring visit, the SIDEPAK inlet flow rate was adjusted to 1.7 L min$^{-1}$ using a Gilibrator primary flow calibrator.</td>
<td>TSI $^{20}$</td>
</tr>
<tr>
<td>Laser counter</td>
<td>GRIMM</td>
<td>The model 1.108 laser counter (GRIMM, Inc., Douglasville, GA) internally records counts of airborne particles every minute in 14 size ranges from 0.3–20+ $\mu m$ with a resolution of 1 particle count per liter. It measures light photons from a semi-conductor laser that have been scattered at an angle of approximately 90 degrees.</td>
<td>Grimm Technologies $^{21}$</td>
</tr>
<tr>
<td>Photoelectric Aerosol Sensor</td>
<td>PAS</td>
<td>The model PAS 2000CE photoelectric aerosol sensor (EcoChem, Inc., League City, TX) takes advantage of the physics of polycyclic aromatic hydrocarbon (PAH) photoemission on the surface of particles. It uses ultraviolet light to ionize PAH on particles under 1 $\mu m$ in diameter and measures the resulting electrical charges. The instrument is pre-calibrated to internally record the mass concentration of PAH in units of ng m$^{-3}$ at intervals as small as 30 s. Because it measures particle-bound PAH, the PAS instrument may respond differently to aerosols that have comparable total mass concentrations but vary in their surface PAH content.</td>
<td>Ott and Siegmann $^{22}$ and EcoChem Analytics $^{23}$</td>
</tr>
</tbody>
</table>
SIDEPAK, GRIMM, and NEPH readings to the fresh PZB 5-min average RSP mass levels measured during a period starting 5–10 minutes after smoking stopped (at which time concentrations were evenly mixed in the room). Background levels were subtracted prior to taking the ratio. Fresh levels were used to determine conversion factors, because outdoor tobacco smoke (OTS) was expected to consist exclusively of fresh emissions. Except for the GRIMM monitor, we used the raw readings of each instrument to determine the conversion factors. In the case of the GRIMM, we used the sum of all particles from the lowest measured diameter of 0.3 µm up to 3.0 µm, since tobacco smoke particles are expected to be in the 0.02–2 µm range. While linear regressions between 1-min average PZB readings and the other instruments across all well-mixed concentrations (fresh and aged) showed generally good agreement on a per-experiment basis ($R^2 = 80–99\%$), there was evidence of a nonlinear relationship in many cases. Our use of ratios of background-subtracted 5-min average particle concentrations to calculate conversion factors, rather than linear regressions, resulted in lower relative variation for conversion factors – likely because it minimized biases due to deposition, coagulation, or evaporation of tobacco smoke particles occurring over time.

The average conversion factors from NEPH and SIDEPAK native units to RSP units observed in the present study (4.6 m$^2$ g$^{-1}$ and $3.3 \times 10^{-3}$ mg µg$^{-1}$, respectively) are similar to those determined by other investigators. For example, Brauer et al.$^{18}$ found a value of 4.7 m$^2$ g$^{-1}$ for the NEPH conversion to mass for cigarettes, and both Travers$^{22}$ and Lee$^{20}$ found values of approximately $3 \times 10^{-3}$ mg µg$^{-1}$ for the SIDEPAK conversion. Lee performed 14 laboratory calibration tests of the SIDEPAK using gravimetric PM$_{2.5}$ filter samples and a smoking machine. Previous investigators have also found good agreement between personal nephelometers (e.g., the MIE personal DataRam) and reference gravimetric methods when calibrated for the target aerosols and adjusted properly for high relative humidity.$^{27}$ Personal nephelometers, which have been used by the USEPA and others to characterize particle exposures,$^{28}$ operate on principles similar to the SIDEPAK and NEPH light-scattering photometers used in the current study. Our SIDEPAK conversion factor corresponds to an internal “custom calibration factor” of approximately 0.3 (dimensionless), which is calculated by multiplying our result by 1000 and taking the reciprocal.

Unlike the other particle instruments, the PAS is expected to exhibit variation in response to RSP based on the PAH content of particle emissions, and it only responds to particles under 1 µm in diameter.$^{22}$ However, evidence suggests that the PAS-measured PAH in cigarette smoke consistently tracks RSP mass across a range of cigarette types and smoking styles. Ding et al.$^{29}$ report that mainstream smoke for US cigarettes contains 1–1.6 µg of PAH per cigarette. The average PAS-to-RSP conversion factor of 0.83 ng µg$^{-1}$, which we observed in the present study for the PAS monitor’s response to smolder-smoked Marlboro cigarette emissions, implies that 0.083% of the emitted particle mass consists of particulate PAH. Our value for the conversion factor is similar to a value of 0.8 ng µg$^{-1}$ observed by Repace$^{30}$ in a casino and values of 1 and 0.8–1.3 ng µg$^{-1}$ observed in two of our prior studies.$^{31,32}$ which used an older version of the PAS monitor (Model PAS 1000i, EcoChem, Inc.). We found that the older PAS 1000i monitor’s response had to be reduced by a factor of 10 relative to the PAS 2000CE, due to the fact that the 1000i uses a krypton bromine UV lamp, whereas the 2000CE uses a mercury vapor UV lamp.

Our use of particles measured by the GRIMM in the 0.3–3 µm range avoided interference from non-tobacco sources of ultrafine particles (< 0.1 µm) and large dust particles (> 3 µm). The empirical GRIMM conversion factor of 6300 counts m$^{-3}$ (µg L$^{-1}$) agrees well with a theoretical mean value of about 6500 counts m$^{-3}$ (µg L$^{-1}$) (relative standard deviation of 0.15), which we calculated from the particle counts by assuming spherical particles, a uniform distribution of particle sizes in each size bin, a particle density of 1.1 g cm$^{-3}$, and a lognormal particle size distribution with a mass median diameter of 0.2 µm and a geometric standard deviation of 2.$^{14}$ We estimated the error associated with readings of a given monitor by computing the ratio of 1-min values for matched instruments of the same type. We also estimated the error associated with conversion of native PAS, GRIMM, NEPH, and SIDEPAK readings to RSP mass units by computing the ratio of the estimated 1-min average RSP mass units for each monitor to the native RSP mass values measured by the PZB.

The results of these calculations showed generally good consistency for intra- and inter-instrument comparisons, with the bulk of errors under 10–20%.

**On-Site Monitoring Visits**

To establish typical OTS levels, we conducted 15 on-site field visits to 10 public outdoor locations containing smokers, including restaurant and pub patios, cafés, airport sidewalks, and a public park (see Tables 3 and 4 and the location schematics in Figure 1). These visits were designed so we could measure the average particle exposure attributable to emissions from real smokers that might occur during a meal at an outdoor establishment or while waiting on a sidewalk or in some other public area.

During each on-site visit, we made real-time measurements of airborne particles using the GRIMM and/or the PAS instrument, or the SIDEPAK instrument. We used the PZB as a supplemental instrument during a single visit. We used the GRIMM, PAS, and SIDEPAK for the visits, because they are more portable and unobtrusive than the PZB and NEPH monitors. For each visit, we measured OTS levels during periods with active smoking. To provide background levels, we also measured during times when no tobacco sources were active.

For 9 of the visits (S1–S9), we measured OTS particle lev-
Figure (1): Rough schematic diagrams of patios and sidewalks where outdoor tobacco smoke (OTS) particle levels were monitored in proximity to smokers or burning cigarettes. All the patios had at least an open roof and many were open on three sides. Broken lines represent open boundaries, and solid lines indicate a surrounding wall or an adjacent building. Tables and benches are represented by circles or ovals and rectangles indicate doorways to buildings or an opening in the wall or fence surrounding a patio. The approximate positions of active smokers and monitors during one or more visits are indicated by the letters "S" and "M", respectively. See Table 4 for dimensions and other characteristics of each OTS monitoring location.
els using the PAS and/or GRIMM while sitting or standing on each patio or sidewalk and observing the activity of nearby cigarette and cigar smokers, but, because patrons engaged in uncontrolled smoking, we were not able to make precise measurements of the distance between smokers and the monitoring instruments. The monitors were generally positioned at breathing height (4–6 ft) or table height (~3 ft). The inlets of the GRIMM and PAS monitors were placed within 12 in of each other where possible. The time spent near active smokers ranged from 0.5 to 3.4 hr per visit.

For 3 on-site visits to outdoor patios (OC1–OC3), we smoked or smolder-smoked cigarettes or cigars near the monitoring positions for smoking periods of 0.1 and 0.5 hr. We used the GRIMM and/or PAS during these visits.

Finally, during 3 site visits to sidewalk patios (OP1–OP3), we measured OTS levels using the SIDEPAK at precise distances from active cigarettes, which were either smolder-smoked or human-smoked, for periods ranging from 0.6 to 1.7 hr. We also measured temperature, air speed, and relative humidity continuously during these visits.

### Matched Monitor Experiments

To quantify the relationship between distance from the smoker and OTS concentration, i.e., the proximity effect, and to make direct comparisons between OTS and indoor SHS levels, we performed controlled experiments on four days (E1–E4) at a private residence (Tables 3 and 4, and BP1 in Figure 1) using pairs of matched PAS, NEPH, and GRIMM instruments at different distances from burning cigarettes. We smolder-smoked successive cigarettes both on the outdoor patio and inside the residence. For most experiments, we made continuous measurements of air speed, temperature, and relative humidity.

The E1 experiments consisted of six outdoor patio experiments on a single day in which a cluster of single PAS, NEPH, and GRIMM monitors were surrounded by five burning cigarettes at distances of 2, 4, or 6 ft, and heights of 3–4 feet, for periods of 10 min per experiment. The cigarettes were positioned in concentric pentagonal arrangements so that cigarettes surrounded the monitors at equal distances for each experiment. This arrangement was expected to diminish the impact of wind direction on measured concentrations. In addition to the 6 cigarette experiments, we conducted 2 experiments in which a single cigar was smoked for 20–30 min at a distance of 4 ft from the monitor cluster. For all experiments, a second, identical cluster of particle monitors, which was intended to provide continuous background levels, was positioned about 28 feet (8.5 m) from the first cluster and around the corner of the house.

For experiments E2–E4, we built two mobile particle monitoring assemblies containing PAS, NEPH, and SIDEPAK instruments fastened to wheeled chairs. On each day, we created 7–9 periods of smolder-smoked cigarette activity lasting 30–50 min, using 3 to 5 individual cigarettes burned successively. The monitoring inlets and burning cigarettes were both at an approximate height of 3–4 ft. To provide accurate background levels, we measured particle concentrations during intermediate time periods with no cigarette activity, which were of similar duration as the smoking periods. For each period of smoking activity, the two monitoring assemblies were placed on opposite sides of the source at distances of 0.25, 0.5, 1.0, 2.0, or 4.0 m. On the fourth day, the PZB instrument was added to the suite of monitoring instruments.

Immediately following 5–6 periods of controlled outdoor cigarette combustion on the backyard patio (BP1 location; E2–E4 experiments), we moved the monitoring assemblies indoors and performed several experiments in the bedroom or living room of the residence. The design of the indoor experiments was nearly identical to the outdoor experiments, except that only distances of 0.25 and 0.5 m from the burning cigarette were monitored, and the experiments were performed inside the house where all exterior doors and windows were closed during periods of smoking activity. In addition, for one of the two living room experiments, a small fan was introduced to explore...
### TABLE (3): Summary of Outdoor Tobacco Smoke (OTS) Surveys and Experiments

<table>
<thead>
<tr>
<th>Name</th>
<th>Location(s)</th>
<th>Sources</th>
<th>Duration</th>
<th>Overall Avg. OTS RSP Conc. [µg m(^{-3})]</th>
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<tr>
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<td>50 (PAS)</td>
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<td>6 (PAS)</td>
</tr>
<tr>
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<td>RC</td>
<td>H, C</td>
<td>3.4 hr</td>
<td>10 (PAS)</td>
</tr>
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<td>0.5 hr</td>
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</tr>
</tbody>
</table>

| **On-site Surveys with Controlled Smolder-Smoked Cigarettes or a Controlled Smoker** | | | | |
| OC1  | PP3         | H, CG, C | 0.5 hr   | 62 (PAS) 17 (GRIMM)                     |
| OC2  | PK          | S, C     | 0.4 hr   | 67 (PAS), 23 (GRIMM), 60 (PZB)         |
| OC3  | BP2         | H, C     | 0.1 hr   | 27 (GRIMM)                              |

| **On-site Proximity Experiments with Controlled Smolder-Smoked Cigarettes or a Controlled Smoker** | | | | |
| OP1  | SC1, SC3    | S, C     | 1.7 hr   | 133 (SIDEPAK)                           |
| OP2  | RP          | S, C     | 0.6 hr   | 106 (SIDEPAK)                           |
| OP3  | SC2         | H, C     | 1.4 hr   | 109 (SIDEPAK)                           |

| **Private Patio Experiments with Controlled Smolder-Smoked Cigarettes or Machine-Smoked Cigars** | | | | |
| E1   | BP1         | S, C     | 2.0 hr   | 48 (PAS), 19 (GRIMM), 10 (NEPH)         |
| E2   | BP1         | S, C     | 3.7 hr   | 47 (PAS), 28 (GRIMM), 10 (NEPH)         |
| E3   | BP1         | S, C     | 3.9 hr   | 61 (PAS), 29 (GRIMM), 22 (NEPH)         |
| E4   | BP1         | S, C     | 2.5 hr   | 38 (PAS), 18 (GRIMM), 16 (NEPH)         |

*a* S1—S9 = on-site visits (surveys) of patios and sidewalk areas with human smokers. OC1—OC3 = on-site controlled visits (surveys) for which the investigators controlled the smoking or smolder-smoking of one or more cigarettes or cigars near the monitors. OP1—OP3 = on-site proximity experiments with controlled smolder- or human-smoked cigarettes positioned at precise distances from the monitoring positions, and E1—E4 = controlled experiments performed at a private residence (patio, living room, bedroom) with smolder-smoked cigarettes positioned at precise distances from two separate monitoring positions.

*b* Codes refer to one of the outdoor locations listed in Table 4: SC1, SC2, SC3 = sidewalk cafés; PP1, PP2, PP3 = pub patios; RC = resort café; RP = restaurant patio; PK = park plaza; AP = airport sidewalk; BP1, BP2 = private backyard patio.

*c* H = human smoked, S= smolder-smoked, CG = cigars, C = cigarettes or cigarillos

*d* Duration of the monitoring period during which OTS sources were intermittently or continuously active.

*e* The estimated average OTS respirable suspended mass (RSP) concentration in µg m\(^{-3}\) determined by converted measurements of a PAS, GRIMM, NEPH or SIDEPAK instrument (indicated in parentheses) taken during times when cigarettes or cigars were active. Background levels were subtracted. Abbreviations: PAS = Ecochem photoelectric aerosol sensor, GRIMM = Grimm laser particle counter; PZB = Kanomax or TSI piezobalance; NEPH = Radiance integrating nephelometer; SIDEPAK = TSI Sidepak laser photometer. Results for S1—S9 include time when smokers were intermittently active at a location. Results for OC1—OC3, OP1—OP3, and E1—E4 include times when a cigarette or cigar was smoked or smolder-smoked by the investigators near the monitoring position. While experiments E2—E4 included indoor SHS measurements, they were not included in the calculated average OTS particle concentrations shown in the table.

the effect of controlled air directionality. The fan blew air at a rate of approximately 0.4 m sec\(^{-1}\) from the source towards one set of monitors. The air flow due to the fan was approximately equal to the to the average ground-level outdoor air flow rate that we observed during the patio experiments and on-site visits (see below).

### RESULTS AND DISCUSSION

Measured concentrations of OTS consistently showed sharp spikes in airborne particle levels when cigars or cigarettes were active. The structure of the peaks could be observed using the NEPH and SIEPAK instruments, which provided readings at active smoking. Prior to averaging and data analysis, we subtracted background levels for each day’s worth of data from each monitor. We created a consistent and integrated database by calculating 1-min averages for each monitor and by converting the native units of each monitor into units of RSP mass concentration (\(\mu g m^{-3}\)).

We analyzed the OTS data in terms of raw concentration readings, 1-min average concentrations, and averages on a per-visit, per-experiment, or overall basis. All results presented are for periods of continuous (experiments) or intermittent (on-site surveys) active smoking. Prior to averaging and data analysis, we subtracted background levels for each day’s worth of data from each monitor. We created a consistent and integrated database by calculating 1-min averages for each monitor and by converting the native units of each monitor into units of RSP mass concentration (\(\mu g m^{-3}\)) using the mean conversion factors in Table 2. The quantitative discussion of variation in OTS levels during each monitoring episode refers to either peak values over intervals as low as 2 or 10 sec, or to 1-min average levels. During nearly all the outdoor monitoring periods on patios and sidewalks where relative humidity was measured, it was fairly low, averaging about 40% with a range of 20–65%. Therefore, correction of OTS levels due to high relative humidity was deemed unnecessary. Where measured, outdoor temperatures averaged 26 °C with a range of 10–38 °C and outdoor ground-level wind speeds (~1 m above ground) averaged 0.41 m sec\(^{-1}\) with a range of approximately 0.0 to 1.2 m sec\(^{-1}\).

**Typical OTS Levels**

Tables 3 and 5 contain overall average OTS particle mass concentrations for periods of smoking during the outdoor on-site...
Figure (2): (A). Real-time outdoor tobacco smoke (OTS) and indoor secondhand smoke (SHS) respirable suspended particle (RSP) mass concentrations determined from raw 2-sec NEPH instrument readings during a suite of patio experiments (E3) performed in the backyard of a residence using smolder-smoked cigarettes. Average RSP mass concentrations are shown for each period when cigarettes were active, indicated by solid horizontal bars, for both northerly and southerly monitoring positions at source-receptor distances of 0.25, 0.5, 1, and 2 m. The southerly average concentrations, shown in larger typeface, were consistently higher than the northerly ones for outdoor measurements, likely because the prevailing winds were in the southerly direction. Outdoor air speed averaged 0.5 m sec\(^{-1}\) on the patio during times that cigarettes were active. The indoor air speed was close to zero. (B). Real-time OTS RSP mass concentrations determined from raw 10-sec SIDEPAK instrument readings during an on-site proximity experiment (OP3) performed on a sidewalk patio with a human smoker. Average mass concentrations during periods of smoking are indicated by solid horizontal bars. The distance of the monitor from the smoker, which ranged over 4 values between 0.5 and 3.7 m, is also given. Air speed averaged 0.16 m sec\(^{-1}\) during times that cigarettes were active. (C). Real-time OTS RSP mass concentrations determined from raw 10-sec SIDEPAK instrument readings during an on-site proximity experiment (OP1) performed on a sidewalk patio where cigarettes were smolder-smoked at 5 different distances from the instrument, ranging from 0.3 m (1 ft) to 2.7 m (9 ft). Average mass concentrations during periods of smoking are indicated by solid horizontal bars. During this set of experiments, wind was consistently blowing in a single direction along the sidewalk. All concentrations were monitored in the downwind direction, except for the second cigarette at 0.6 m, for which concentrations were monitored in the opposite (upwind) direction. Air speed averaged 0.5 m sec\(^{-1}\) during times that cigarettes were active.
field visits and for breakdowns by various factors. Note that the results presented in Table 5 are not meant to imply direct comparisons of concurrent measurements for the different instruments, since not all the monitors were used during a given visit.

As determined from PAS instrument measurements during the on-site visits with natural and controlled smoking (S1–S6, S8–S9, and OC1–OC2), average estimated RSP mass concentrations of OTS particles on a given day ranged from 6 to 67 µg m$^{-3}$ with an overall average of 33 µg m$^{-3}$. The estimated GRIMM RSP levels for similar visits to outdoor patios (S3, S6–S9, and OC1–OC3) ranged from 17 to 51 µg m$^{-3}$ with an average of 34 µg m$^{-3}$. The PZB levels from a single visit with controlled smoking near the monitor (OC2) averaged 60 µg m$^{-3}$ (0.4 hr averaging period).

In general, the variation in 1-min average OTS levels (Table 5) was very high with overall relative standard deviations of 1.7 for the PAS and GRIMM instruments. This variation results from the occurrence of sharp spikes in the OTS concentration time series due to swirling microplumes. Peaks in 1-min average OTS levels during site visits were observed to reach as high as 300–600 µg m$^{-3}$ as measured by the PAS and GRIMM instruments.

The estimated RSP mass concentrations determined from PAS measurements in the present work may have been influenced by non-tobacco sources or differences in PAH emissions for different types of tobacco products or smoking styles relative to what we used during the calibration experiments. Ott and Siegmann\textsuperscript{22} report very different PAH concentrations for different combustion sources. In the current study, we found the PAS monitor was more sensitive to some non-OTS particles, such as diesel exhaust and soot from some types of candles, than the other instruments, because these emissions are high in PAH. We minimized bias in the PAS measurements caused by other sources by including only levels for the PAS when no non-OTS sources or unexplained concentrations were observed.

In spite of possible interference from other sources, the general validity of the PAS results – and their applicability to estimating OTS RSP – is supported by their generally good agreement with the estimated RSP levels derived from the GRIMM instrument. Some of the differences we observed between the two instruments may have resulted from microplume effects, in which localized peaks in particle concentration occurred near only one monitor’s inlet at a given instant.

To facilitate direct comparisons to PAS measurements performed in other studies, the estimated RSP values reported here can be converted back to the native ng m$^{-3}$ units of the PAS instrument by using the conversion factor of 0.83 ng µg$^{-1}$ presented above. For example, the average per-visit particle-bound PAH concentrations measured during on-site surveys where smoking occurred were 5–56 ng m$^{-3}$ with an overall average of 27 ng m$^{-3}$, which is similar to the particulate PAH concentrations reported by Ott and Siegmann\textsuperscript{22} using the same PAS 2000CE monitor.

As shown in Table 5, overall average OTS concentrations for time periods when both cigarettes and cigars were active (50 and 43 µg m$^{-3}$ for PAS and GRIMM, respectively) were 40–70% higher than those when only cigarettes were active (16 and 25 µg m$^{-3}$). This result may have occurred because cigars are active over a longer period of time than are individual cigarettes. In addition, average OTS concentrations measured by the PAS and GRIMM instruments during visits to outdoor patios that were enclosed by fences or walls (PP1 and PP2 locations) were 50% and 43% higher, respectively, than those observed in more open areas (52 and 51 µg m$^{-3}$ versus 21 and 29 µg m$^{-3}$). In the more open patios (SC1–SC3, BP2, PK, RC, RP, and AP locations), which may have contained tables, chairs, umbrellas, and low fences, air could flow across the patio, perhaps influenced by a “street canyon” effect characterized by air movement in a consistent direction along building boundaries. In contrast, the enclosed patios had walls on four sides that protected patrons from wind and may have contained OTS emissions to a greater degree.

**Outdoor Versus Indoor Concentrations**

The three days of monitoring at a residence (E2–E4), during which parallel measurements were performed indoors and outdoors using the PAS, GRIMM, NEPH, and PZB instruments, provide data for direct comparisons between OTS levels and indoor SHS levels. Tables 3 and 6 summarize the average OTS and indoor SHS particle concentrations observed during periods of active smoking for these experiments. Figure 2A shows the complete time series of one set of experiments (E3) for the NEPH instrument.

The effect of accumulation of cigarette emissions indoors and the effect of room volume were plainly evident during the experiments. Whereas OTS concentrations dropped immediately to background levels when the cigarette sources were extinguished, indoor SHS concentrations persisted at relatively high levels and slowly decayed for hours until the doors were opened to ventilate the house.

As expected, the smaller bedroom with a volume of 44 m$^3$ had larger average indoor SHS particle concentrations during smoking (105 µg m$^{-3}$ from PZB) than the living room (35 µg m$^{-3}$ from PZB), which had a volume of more than 400 m$^3$ (see Table 6). The average indoor SHS levels observed in this study were similar to those observed by Ozkaynak et al.\textsuperscript{34}, who report that secondhand smoke contributes approximately 30 µg m$^{-3}$ on average to indoor particle levels in homes. In the present study, we observed PZB particle mass peaks in the living room and bedroom of approximately 50 and 200 µg m$^{-3}$, respectively, which are similar to peak values that we observed in previous real-time monitoring studies of cigar and cigarette smoking in homes.\textsuperscript{31,35}

The average OTS particle concentrations we observed during each experiment across all distances were 10–22 µg m$^{-3}$ for the NEPH, 18–29 µg m$^{-3}$ for the GRIMM, and 38–61

The experiment in the living room of the residence, where a fan was used to blow the plume of a burning cigarette toward a set of monitors at an air speed of about 0.4 m sec$^{-1}$, demonstrates how wind can elevate OTS levels in downwind directions (Figure 2A). For this particular experiment, the fan increased average NEPH levels during smoking by approximately 3 times at a downwind monitor relative to an upwind monitor.

This effect is further illustrated by our observation that the two sets of monitors positioned on either side of the active cigarette sources on the outdoor residential patio recorded much different OTS particle levels. The average levels in the northerly direction were about 40–60% lower than those in the southerly direction (Table 6). From the time profiles for one set of measurements (Figure 2A), it is evident that outdoor levels could be higher than corresponding indoor (non-fan) levels in one direction, but near zero in the opposite direction.

The clearest evidence that wind leads to extremely high OTS levels during smoking was provided by the results of the OP1 experiment at the first sidewalk café where 6 cigarettes were smolder-smoked at 5 distances from the SIDEPAK monitor (Figure 2C). For this experiment, the wind was observed to consistently blow the smoke microplumes in a single direction at an average speed of 0.5 m sec$^{-1}$ when cigarettes were active. Upwind levels were practically zero, whereas the average downwind particle levels during smoking were 582 µg m$^{-3}$ at 0.3 m and even at 1.2–2.7 m they were still elevated above back-
<table>
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<th>Factor</th>
<th>PAS&lt;sup&gt;a&lt;/sup&gt;</th>
<th>GRIMM&lt;sup&gt;b&lt;/sup&gt;</th>
<th>NEPH&lt;sup&gt;c&lt;/sup&gt;</th>
<th>PZB&lt;sup&gt;d&lt;/sup&gt;</th>
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</table>

<sup>a</sup>This table contains grouped descriptive statistics calculated from 1-min average outdoor tobacco smoke (OTS) particle measurements observed during 4 controlled day-long experiments at a residence (E1–E4) and 3 on-site proximity experiments (OP1–OP3) for which distance from continuously active tobacco sources was recorded. The resolvable suspended particle (RSP) mass units for PAS, GRIMM, NEPH, and SIDEPAK instruments are estimated based on conversion factors to PZB RSP mass concentration units that were calculated from the results of controlled cigarette smoking experiments performed using the collimated monitoring instruments. Background levels were subtracted. The monitors are abbreviated as follows: PAS = Ecochem photoelectric aerosol sensor; GRIMM = Grimm laser particle counter; NEPH = Radiance integrating nephelometer; PZB = Kanomax piezobalance; and SIDEPAK = TSI laser photometer. The abbreviations for statistics are: n = sample size of 1-min average values; \( \bar{x} \) = RSP sample mean in \( \mu g \) m\(^{-3}\); s = RSP sample standard deviation in \( \mu g \) m\(^{-3}\); and \( s/\bar{x} \) = relative standard deviation (dimensionless).

<sup>b</sup>The PAS, GRIMM, and NEPH were used together for the E1–E4 day-long experiments (see Table 3). The PZB was only used during the indoor portion of the E4 experiments.

<sup>c</sup>The SIDEPAK was only used (by itself) during the OP1–OP3 proximity experiments (see Table 3).

<sup>d</sup>The “Outdoor” row contains statistics calculated from outdoor tobacco smoke (OTS) levels across all experiments. The “Living Room” and “Bedroom” rows contain indoor secondhand smoke (SHS) results for the two indoor locations when the fan was on or monitors were upwind from the fan. Indoor SHS levels were only measured at distances of 0.25 and 0.5 m from the monitoring positions. Apart from the two rows labeled “Living Room” and “Bedroom,” all rows in the table are for OTS levels only.

<sup>e</sup>The distance from the source in four groupings for outdoor tobacco smoke (OTS) levels only. [“] or [“] indicates left or right limit is inclusive and )” indicates right limit is exclusive.

<sup>f</sup>For three outdoor experiments on the residential patio (E2–E4), groups of monitors were placed in northerly and southerly directions.

<sup>g</sup>For outdoor results (OP1), the plume of the cigarette emissions was observed to move in a single direction for the entire duration of the experiment, either towards the monitor (“Downwind” results) or away from the monitor (“Upwind” results).

The 10-sec spikes in the downwind OTS particle time series sometimes exceeded 1500 \( \mu g \) m\(^{-3}\).

**Proximity Effect**

We observed a clear reduction in OTS levels as the distance from a tobacco source increased. Generally, average levels within 0.5 m from a single cigarette source were quite high and comparable to indoor levels, and OTS levels at distances greater than 1 or 2 m were much lower. However, during on-site proximity experiments OP1 and OP3, OTS was still detectable by the SIDEPAK at distances of about 3–4 m from a single cigarette on sidewalk patios. A NEPH instrument also registered slightly elevated particle concentrations at a distance of 8 m from a cluster of burning cigarettes and around the corner of the house during a backyard patio experiment (E1).

To summarize and quantify the proximity effect observed in our study, we fit curves to average OTS particle concentrations \( y \) as a function of the distance from the source \( x \). Figure 3 shows two curves with separate fits for data from the sidewalk cafés (OP1–OP3: \( y = 44.4x^{-2} + 27x^{-1} + 4.1 \)) and the backyard patio (E1–E4: \( y = -0.3x^{-2} + 16.8x^{-1} - 2.8 \)) where distances were measured precisely. Every point represents the overall average for a given distance across all smoking periods and instruments at a given type of location. The levels on the private patio were generally lower and dropped off by 1–2 m, whereas the café levels, where winds may have been stronger and/or more directional, started out about 4 times higher and did not entirely drop off by 4 m.

**Previous OTS Studies**

Prior to the current study, few data on OTS levels have been available. In an unpublished study, the California Air Resources Board (CARB) measured 1-hr and 8-hr average nicotine concentrations, number of active cigarettes, and wind characteristics outside an airport, a college, a government center, an office complex, and an amusement park<sup>b</sup> (Chapter 5, pp.V6-V19). Average OTS nicotine concentrations were strongly affected by counts of the number of smokers and moderately affected by the size of the smoking area and the measured wind speed. The observed 8-hr average OTS nicotine levels...
in locations with relatively stronger winds or a smaller number of smokers were about 0.1 \( \mu g \) m\(^{-3} \) or less. In locations with a larger number of smokers, the levels could reach 1 or 3 \( \mu g \) m\(^{-3} \). These OTS levels are in the middle range of observed indoor SHS nicotine levels, which can average from 0.01 to 10 \( \mu g \) m\(^{-3} \). Based on the CARB study, Californians spending time close to outdoor smokers could potentially be exposed to OTS levels similar to those associated with indoor SHS concentrations.

The general findings of the CARB study are compatible with the findings of the current work. The CARB results establish the potential for relatively high OTS exposures in places where smokers congregate. The experiments in the current work go further to quantify potential exposures under specific wind and proximity conditions – focusing on single smokers. Extrapolation of our controlled experimental methods and results to multiple smokers is complex, because one must consider the relative positions between each source and the receptor. Generally, we would expect that exposure increases in proportion with the number of smokers. The exact increase depends on the amount of time the receptor spends downwind and at a given distance from each source.

**Incremental Contributions to 24-hr Total Exposure**

It is useful to calculate per-cigarette 24-hr incremental exposure (IE\(_{24}\)) concentrations for OTS, where IE\(_{24}\) is defined as the contribution of a given OTS-related event involving one cigarette to a person’s 24-hr total particle exposure. For example, during on-site experiment OP1 we observed an average OTS particle concentration at a distance of 0.3 m from a cigarette of 582 \( \mu g \) m\(^{-3} \) in the downwind direction. Since the cigarette lasted about 10 min, we calculate a per-cigarette 24-hr incremental exposure as follows: IE\(_{24}\) = 582 \( \mu g \) m\(^{-3} \) \times 10 \text{ min} / 1440 \text{ min} = 4 \( \mu g \) m\(^{-3} \). The calculation amounts to a weighting of the per-cigarette average concentration by the proportion of time the cigarette lasts with respect to the 24-hr (1440-min) day.

The incremental exposure concept allows one to combine exposures for different events and compare the total to health-related standards or other reference levels. For example, if a person experienced 9 cigarette events over the course of their day – with each event similar to the one that occurred at 0.3 m in the OP1 experiments – then their overall 24-hr OTS particle exposure would be 9 \times 4 \( \mu g \) m\(^{-3} \) = 36 \( \mu g \) m\(^{-3} \). This exposure would exceed the USEPA 24-hr health-based ambient standard for fine particles, which is currently 35 \( \mu g \) m\(^{-3} \). Note that the USEPA standard was devised for ambient air pollution, which is likely to have substantially different composition than tobacco smoke pollution. However, since secondhand smoke contains many toxic compounds, including carcinogens, it is likely that, at a given airborne particle concentration, OTS carries the greater risk.

**Summary and Conclusions**

The measurement of OTS is a new area in terms of epidemiologic and human exposure investigations. The present work provides some of the first evidence that OTS levels can be substantial under certain conditions of wind and proximity. The major findings of our research are summarized as follows:

- Real-time particle instruments, especially those based on light scattering, are useful in characterizing the determinants of OTS levels, which fluctuate on a time scale of seconds. The different particle detection instruments provide consistent findings and support the general conclusion that significant OTS levels can occur near smokers.

- Outdoor particle concentrations measured close to a cigar or cigarette exhibit multiple concentration spikes or “microplumes”, which are similar to those that have been observed close to indoor particle sources.

- Average OTS particle levels near active sources over the course of 1 or more cigarettes can be comparable to average well-mixed indoor SHS particle levels observed to occur in living rooms or bedrooms during active smoking. Average OTS particle concentrations can reach 100’s of \( \mu g \) m\(^{-3} \). Unlike for indoor SHS, OTS levels drop to zero when smoking ends.

- OTS levels are highly dependent on wind conditions. Upwind levels are likely to be very low, whereas downwind...
OTS during periods of active smoking can be very large with 10-sec peak levels at the closest positions potentially exceeding 1500 µg m$^{-3}$ and average levels over the duration of a single cigarette potentially exceeding 500 µg m$^{-3}$.

- OTS levels are highly dependent on source proximity. Levels at 0.25–0.5 m can drop by half or more as the distance increases to 1–2 m. At distances larger than 2 m, levels near single cigarettes were generally close to background. The concentrations at different distances are influenced by wind conditions. We found that it was possible for there to be detectable OTS levels at downwind positions of 4 m or more from a single active cigarette. Also, as the number of active cigarettes increases, the distance at which OTS is detectable is likely to increase.

- In outdoor restaurant patios and parks, where there may be multiple smokers, between 8 and 20 cigarettes smoked sequentially could cause an incremental 24-hr particle exposure greater than a threshold level of 35 µg m$^{-3}$ for a person who is within 0.5 m of the smokers. This threshold level is the 24-hr USEPA health-based standard for fine particles.

Our results demonstrate that OTS can be high during periods of smoking in locations where persons are near active smokers. Therefore, it is possible for OTS to present a nuisance or hazard under certain conditions. Examples of scenarios where OTS levels might be high include eating dinner with a smoker on an outdoor patio, sitting at a table next to a smoker at a sidewalk café, sitting next to a smoker on a park bench, or standing near a smoker outside a building. Children who accompany a smoking parent or guardian may experience substantial exposure. Outdoor restaurant or pub workers who spend a significant portion of their time within a few feet of active smokers are also likely to receive relatively large total OTS exposures over the course of a day – possibly exceeding the USEPA 24-hr health standard for fine particles. If one is upwind from a smoker, levels most likely will be negligible. However, if the smoker’s position changes or one spends time downwind from a smoker, then moving to a distance of more than 2 m can reduce the likelihood of experiencing elevated particle exposure due to OTS. Future studies should measure OTS levels for dynamic situations with multiple smokers, including continuous measurements of personal OTS concentrations or biomarker levels for workers in outdoor locations.

Support for health-based OTS bans may lie in a potential acute effect on susceptible populations. Short-term OTS exposures might be life threatening for high-risk persons, since the human cardiovascular system is very sensitive to secondhand smoke. A recent before-and-after smoking ban study showed a decreased chance of myocardial infarction when a ban was in place, which suggests that there is an acute risk associated with SHS exposure for persons at increased risk of coronary heart disease or with known coronary artery disease.

ACKNOWLEDGMENTS

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DEFENDING YOUR RIGHT TO BREATHE SMOKEFREE AIR SINCE 1976

100% SMOKEFREE U.S. HOSPITALS AND NURSING HOMES

July 5, 2010

Hospitals, clinics, nursing homes, and rehabilitation centers are further promoting the health and safety of their communities by voluntarily adopting 100% smokefree policies to protect employees, patients, and visitors from secondhand smoke exposure. Smokefree policies are an effective and easy way to exponentially improve a community’s well-being. Please note: this is a partial list. If you know of medical or healthcare facilities that are 100% smokefree and are currently not listed, please contact ANR at anr@no-smoke.org or (510) 841-3032 with that information. Please visit our hospitals page at http://www.no-smoke.org/hospitals.html for more information on going smokefree.

In August 2009, The Joint Commission, the world's largest healthcare standards setting and accrediting body, and researchers from the Henry Ford Health System's Center for Health Promotion and Disease Prevention, completed a survey regarding hospitals' smokefree campus policies and concluded that by February 2008, 45 percent of US hospitals had adopted "smoke-free campus" policies. In addition, "...another 15 percent indicated that they would be implementing similar policies in the near future. Hence, it is safe to assume on the basis of these results that the majority of US hospitals will have smoke-free campuses by the end of 2009." (The Adoption of Smoke-Free Hospital Campuses in the United States, Scott C Williams, Joanne M Hafner, David J Morton, Amanda L Holm, Sharon M Milberger, Richard G Koss, and Jerod M Loeb, Tobacco Control Published Online First: 20 August 2009. doi:10.1136/tc.2009.030494 http://tobaccocontrol.bmj.com/cgi/content/abstract/tc.2009.030494v1)

Please note, these policies have been enacted but are not necessarily yet in effect. Please contact the hospital itself to verify the status of its policy.

HOSPITALS AND CLINICS

The following 4 national hospitals, clinics, insurers, and health service companies have adopted 100% smokefree policies nationwide which extend to all their respective facilities, campuses, and office buildings.

Kaiser Permanente
Mayo Clinic
SSM Health Care
CIGNA Corp.

Including the following, at least 2,417 local and/or state/territory/commonwealth hospitals, healthcare systems, and clinics have adopted 100% smokefree campus grounds policies that protect all employees, visitors, and patients from secondhand smoke exposure within their campuses— including but not limited to facility buildings, outdoor areas, and parking lots. While it has become relatively common for hospitals and health facilities to have policies requiring all buildings be smokefree indoors, this list only includes hospitals and health facilities with entirely smokefree campuses.

Alaska Native Medical Center, AK
Alaska Regional Medical Center, AK
Central Peninsula General Hospital, AK
Fairbanks Memorial Hospital, AK
Mat-Su Regional Medical Center, AK
Providence Alaska Medical Center, AK
Arroyo Grande Community Hospital, AL
Atmore Community Hospital, AL
Baptist Behavioral Medicine Hospital, AL
Baptist Health Care†, AL
Baptist Behavioral Medicine Hospital, AL
Baptist Hospital Prattville, AL
Baptist Manor, AL
Baypointe Hospital and Children's Residential Services, AL
Bryan W. Whitfield Memorial Hospital, AL
Cattaway Burdick West Memorial Hospital, AL
Cherokee Medical Center, AL

2530 San Pablo Avenue, Suite J • Berkeley, California 94702 • (510) 841-3032 / FAX (510) 841-3071
www.no-smoke.org • anr@no-smoke.org
As of October 1, 2005, all Arkansas hospital campuses, except mental hospitals, are 100% smokefree. The law does not cover the use of smokeless tobacco products. Hospitals, as well as hospital-owned and operated ambulatory surgery center centers and hospital-owned and operated free standing medical clinics, are included.

American Samoa Medical Center, AS

Banner Good Samaritan Hospital, AZ
Banner Williams Health Care Center, AZ
Carondelet Health Net., Holy Cross Hospital in Nogales, AZ
Carondelet Health Net., St. Joseph’s Hospital, AZ
Carondelet Health Net., St. Mary’s Hospital, AZ
Carondelet Health Net., Tucson Heart Hospital, AZ
Chandler Regional Hospital, AZ
CIGNA Healthcare System, AZ
Kingman Regional Medical Center, AZ

Northern Cochrise Community Hospital, AZ
Paradise Valley Hospital, AZ
Phoenix Valley Hospital, AZ
Sulphur Springs Medical Center, AZ
Sunsites Medical Clinic, AZ
Tucson Medical Center, AZ

Alta Bates Summit Medical Center (2 facilities), CA
Arroyo Grande Hospital, CA
City of Hope National Medical Center, CA
Coastal Cancer Care and Diagnostic Center, CA
Coastal Surgical Institute, CA
Community Hospital of San Bernardino, CA
Dominican Hospital, CA
Edgemoor Hospital, CA
Eisenhower Medical Center, CA
El Camino Hospital, Los Gatos, CA
El Camino Hospital, Mountain View, CA
Family Healthcare Network, CA
French Hospital Medical Center, CA
Henry Mayo Newhall Memorial Hospital, CA
John F. Kennedy Hospital, CA
John Muir Medical Center, CA
Kaiser Permanente Hospitals (9 Northern California facilities & nationwide policy), CA
Kentfield Rehabilitation and Specialty Hospital, CA
Lucille Packard Children's Hospital, CA
Mercy Medical Center Merced, CA
Marian Medical Center, CA
Marshall Medical Center, CA
Mercy General Hospital, CA
Metropolitan State Hospital, CA
Mission Hospital, CA
Novato Community Hospital, CA
Orange Coast Memorial Medical Center, CA
Palomar Pomerado Health (4 facilities), CA
Riverside Community Hospital, CA
Riverside Medical Center, CA
Robert E. Bush Naval Hospital, CA
Saddleback Memorial Medical Center, CA
San Francisco General Hospital, CA
San Joaquin Community Hospital, CA
Sharp HealthCare† (7 hospitals and all other facilities), CA
Shriner’s Hospital Sacramento, CA
Sierra Vista Regional Medical Center, CA
Stanford Hospital, CA
Stanford University School of Medicine, CA
St. Bernardine Medical Center, CA
St. Joseph Hospital, CA
St. Joseph's Medical Center, CA
St. Jude Medical Center, CA
Sutter Amador Hospital, CA
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<td>Sutter Roseville Medical Center, CA</td>
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<td>Tehachapi Valley Healthcare District, CA</td>
<td>CA</td>
</tr>
<tr>
<td>Tri-City Healthcare District† (2 facilities), San Diego County, CA</td>
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<tr>
<td>Tri-County Health Care District†, CA</td>
<td>CA</td>
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<tr>
<td>University of California, Davis Medical Center, CA</td>
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<tr>
<td>University of California, Irvine Medical Center, CA</td>
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<tr>
<td>University of California, San Francisco (UCSF) Medical Center, CA</td>
<td>CA</td>
</tr>
<tr>
<td>Watts Healthcare Corporation†, CA</td>
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</tr>
</tbody>
</table>

**A Denver, Colorado, ordinance requires all Denver hospitals to have smokefree outdoor areas, including any adjacent public right of way (including sidewalks, tree lawns, and alleys). A Pueblo, Colorado, ordinance requires the city’s two hospitals to have smokefree campuses.**

- Advista Adventist Hospital, CO
- Arkansas Valley Regional Medical Center, CO
- Boulder Community Hospital, Boulder, CO
- Centura Health - St. Anthony North Hospital, CO
- Children’s Hospital, Denver, CO
- Community Hospital, Grand Junction, CO
- Denver Health, CO
- Dept of Veterans Affairs Medical Center, Denver, CO
- Estes Park Medical Center, Estes Park, CO
- Exempla Good Samaritan Hospital, Lafeyette, CO
- Exempla Lutheran Medical Center, CO
- Family Health West Hospital, CO
- Grand Junction Medical Center, CO
- Heart of The Rockies Regional Medical Center, CO
- Kaiser Permanente Hospitals (nationwide policy), CO
- Keefe Memorial Hospital, CO
- Littleton Adventist Hospital, CO
- Longmont United Hospital, Longmont, CO
- Medical Center of Aurora, CO
- Medical Center of the Rockies, Loveland, CO
- Memorial Health System, Colorado Springs, CO
- Memorial Hospital, CO
- McKee Medical Center, Ft. Collins, CO
- Montrose Memorial Hospital, Montrose, CO
- Mt. San Rafael Hospital, CO
- National Jewish Medical and Research Center, Denver, CO
- North Colorado Medical Center, Greeley, CO
- North Suburban Medical Center, CO
- Parkview Medical Center, CO
- Penrose-St. Francis Health Services, CO
- Platte Valley Medical Center, Brighton, CO
- Porter Hospital, CO
- Porter Adventist Hospital, Denver, CO
- Poudre Valley Hospital, CO
- Presbyterian/St. Luke's Medical Center, CO
- Prowers Medical Center, CO
- Rose Medical Center, CO
- San Luis Valley Regional Medical Center, CO
- Sky Ridge Medical Center, CO
- Spalding Rehabilitation Hospital, CO
- St. Anthony Central Hospital, Denver, CO
- St. Anthony's Hospital, Summit County, CO
- St. Joseph's Hospital, Denver, CO
- St. Mary Corwin Hospital, CO
- St. Mary Corwin Medical Center, CO
- St. Mary’s Hospital, CO
- St. Mary's Hospital & Regional Medical Center, CO
- Swedish Medical Center, CO
- University of Colorado Hospital, CO
- University of Colorado Denver Anschutz Medical Campus, Aurora, CO
- Vibra Hospitals (formerly North Valley Hospitals), CO
- Yampa Valley Medical Center, CO

- Bridgeport Hospital, CT
- Bristol Hospital, CT
- Charlotte Hungerford Hospital, CT
- Connecticut Children’s Medical Center, CT
- Danbury Hospitals†, CT
- Day Kimball Hospital, CT
- Eastern Connecticut Health Network, CT
- Greenwich Hospital, CT
- Griffin Hospital, CT
- Hartford Hospital, CT
- Hospital of Central Connecticut, CT
- Hospital of Saint Raphael, CT
- John Dempsey Hospital, CT
- Lawrence & Memorial Hospital, CT
- Manchester Memorial Hospital, CT
- Middlesex Hospital, CT
- MidState Medical Center, CT
- New Milford Hospital, CT
- Norwalk Hospital, CT
- Rockville General Hospital, CT
- St. Francis Hospital and Medical Center, CT
- St. Mary’s Hospital, CT
- St. Vincent's Hospital, CT
- Stamford Hospital, CT
- Waterbury Hospital, CT
- William W. Backus Hospital, CT
- Windham Community Memorial Hospital, CT
- Yale-New Haven Hospital, CT

- Georgetown University Hospital, DC
- National Rehabilitation Hospital, DC
- Providence Hospital, DC
Washington Hospital Center, DC
Christiana Care, DE
Delaware Hospital for the Chronically Ill, DE
Emily P. Bissell Hospital, DE
Governor Bacon Health Center, DE
Baptist Health (5 facilities), FL
Bartow Regional Medical Center, FL
Bay Medical Center, FL
Bert Fish Medical Center, FL
Blake Medical Center, FL
Boca Raton Community Hospital, FL
Brandon Regional Hospital, FL
Brooksville Regional Hospital, FL
Cape Canaveral Hospital, FL
Cape Coral Hospital, FL
Charlotte Regional Medical Center, FL
Children’s Hospital at St. Mary’s, FL
Citrus Memorial Health System, FL
Community Hospital of New Port Richey, FL
David Lawrence Center, FL
DeSoto Memorial Hospital, FL
Delray Medical Center, FL
Doctors Hospital of Sarasota, FL
Doctors’ Memorial Hospital, FL
Englewood Community Health, FL
Family Health Centers of Southwest Florida†, FL
Fawcett Memorial Hospital, FL
First Coast Hospitals (5 facilities), FL
Florida Hospital DeLand, FL
Florida Hospitals (17 facilities), FL
Florida Hospital Oceanside, FL
Gulf Coast Hospital, FL
Gulf Coast Medical Center, FL
Health Center, FL
Health Central, FL
Health First Inc., FL
HealthPark Medical Center, FL
HealthSouth, FL
Heart of Florida Regional Medical Center, FL
Hernando County Hospitals, FL (4 facilities)
Highlands Regional Medical Center, FL
Holms Regional Medical Center, FL
Lake Wales Regional Medical Center, FL
Lakewood Ranch Medical Center, FL
Lawnwood Regional Medical Center & Heart Institute, FL
Lee Memorial Health System† (70 facilities), FL
Lee Memorial Hospital, FL
Leesburg Regional Medical Center, FL
Lehigh Regional Medical Center, FL
Lower Keys Medical Center, FL
Manatee Memorial Hospital, FL
Martin Memorial Health Systems, FL
Morton Plant North Bay Hospital, FL
Munroe Regional Hospital, FL
Naples Community Hospital, FL
Naval Hospital Pensacola, FL
NCH Healthcare System†, FL
Oak Hill Hospital, FL
Ocala Health, FL
Ocala Regional Medical Center, FL
Orange Park Medical Center, FL
Orlando Regionals (8 facilities), FL
Orlando Health, FL
Ormond Memorial, FL
Osceola Regional Medical Center, FL
Palm Bay Community Hospital, FL
Palm Beach Gardens Medical Center, FL
Parrish Medical Center, FL
Peace River Regional Medical Center, FL
Physicians Regional Healthcare System†, FL
Regional Medical Center Bayonet Point, FL
Sacred Heart Health System†, FL
Santa Rosa Medical Center, FL
Sarasota Memorial Healthcare System, FL
Seven Rivers Regional Medical Center, FL
Spring Hill Regional Hospital, FL
St. Adventists Health System (17 facilities), FL
St. Cloud Regional Medical Center, FL
St. Lucie Medical Center, FL
St. Mary’s Medical Center, FL
St. Vincent's Medical Center, FL
South Lake Hospital, FL
Southwest Florida Addiction Services, FL
University of Florida Health Science Center, FL

Shands HealthCare† (7 hospitals), FL
Venice Regional Medical Center, FL
Villages Regional Hospital, FL
West Boca Medical Center, FL
West Marion Community Hospital, FL
Winter Haven Hospital, FL
Wuesthoff Health System, FL

Archbold Medical Center, GA
Athens Regional Medical Center, GA
Beaufort Hospital, GA
Brooks County Hospital, GA
Children’s Healthcare of Atlanta, GA
Colquitt Regional Medical Center, GA
Crawford Long Hospital, GA
Crisp Regional Hospital, GA
Early Memorial Hospital, GA
Emory University Hospital, GA
Floyd†, GA
Grady General Hospital, GA
Harbin Clinic, GA
Hart County Hospital, GA
Memorial Health University Medical Center, GA
Mitchell County Hospital, GA
North Fulton Hospital, GA
Palmyra Medical Center, GA
Phoebe Putney Medical Center, GA
Phoebe Worth Medical Center, GA
Piedmont Hospital, Atlanta, GA
Piedmont Medical Center, GA
St. Mary's Health Care System†, GA
St. Joseph Hospital, GA
Southwest Georgia Regional Medical Center, GA
Tift Regional Hospital, GA
University Health Care System (Augusta), GA
Waverly Health Center, IA

Guam Memorial Hospital, GU

Allen County Memorial Hospital, IA
Anamosa Area Ambulance, IA
Audubon County Memorial Hospital, IA
Baum-Harnon Mercy Hospital, IA
Blank Children’s Hospital, IA
Broadlawns Medical Center, IA
Burgess Health Center, IA
Cass County Memorial Hospital, IA
Clarinda Hospital, IA
Community Health of Jones County, IA
Community Memorial Hospital†, IA
Covenant Medical Center, IA
Ellsworth Municipal Hospital, IA
Floyd County Memorial Hospital, IA
Grundy County Memorial Hospital, IA
Hamilton Hospital, Webster City, IA
Hancock County Memorial Hospital, IA
Health Inc, IA
Iowa Lutheran Hospital, IA
Iowa Methodist Medical Center, IA
Jackson Recovery Center, IA
Jefferson County Hospital, IA
Jones Regional Medical Center, IA
June E. Nylen Cancer Center, IA
Keokuk Area Hospital, IA
Mercy Capitol, IA
Mercy Hospital†, Corning, IA
Mercy Medical Center, IA
Mercy Medical Center-North Iowa, IA
Mercy Medical Center-New Hampton, IA
Mitchell County Regional Health Center, IA
Pocahontas Community Hospital, IA
Regional Health Services of Howard County, IA
Sartori County Memorial Hospital, IA
Siouxland Community Blood Bank, IA
Siouxland Community Health Center, IA
Siouxland District Health Department, IA
Siouxland Hematology and Oncology, IA
Siouxland Medical Education Foundation, IA
Siouxland Paramedics, IA
St. Luke’s Regional Medical Center, IA
Washington County Hospital & Clinics, IA

† Smokefree policy extends to all medical clinics owned and operated by the health system.
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<tr>
<td>Hanover Hospital</td>
<td>Hanover, KS</td>
</tr>
<tr>
<td>Harper Hospital District No. 5</td>
<td>Harper, KS</td>
</tr>
<tr>
<td>Hays Medical Center</td>
<td>Hays, KS</td>
</tr>
<tr>
<td>Herington Municipal Hospital</td>
<td>Herington, KS</td>
</tr>
<tr>
<td>Hillsboro Community Medical Center</td>
<td>Hillsboro, KS</td>
</tr>
<tr>
<td>Holton Community Hospital, Holton</td>
<td>KS</td>
</tr>
<tr>
<td>Hospital District #1 of Crawford County</td>
<td>Girard, KS</td>
</tr>
<tr>
<td>Hutchinson Hospital</td>
<td>Hutchinson, KS</td>
</tr>
<tr>
<td>Kearny County Hospital, Lakin</td>
<td>KS</td>
</tr>
<tr>
<td>Kiowa County Memorial Hospital, Greensburg</td>
<td>KS</td>
</tr>
<tr>
<td>Labette Health, Parsons</td>
<td>KS</td>
</tr>
<tr>
<td>Lane County Hospital, Dighton</td>
<td>KS</td>
</tr>
<tr>
<td>Lawrence Memorial Hospital, Lawrence</td>
<td>KS</td>
</tr>
<tr>
<td>Lindsborg Community Hospital</td>
<td>Lindsborg, KS</td>
</tr>
<tr>
<td>Logan County Hospital, Oakley</td>
<td>KS</td>
</tr>
<tr>
<td>Meade District Hospital</td>
<td>Meade, KS</td>
</tr>
<tr>
<td>Medicine Lodge Memorial Hospital, Medicine Lodge</td>
<td>KS</td>
</tr>
<tr>
<td>Memorial Health System, Abilene</td>
<td>KS</td>
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<tr>
<td>Memorial Hospital, Inc., McPherson</td>
<td>KS</td>
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<tr>
<td>Menorah Medical Center, Overland Park</td>
<td>KS</td>
</tr>
<tr>
<td>Mercy Health Center, Fort Scott</td>
<td>KS</td>
</tr>
<tr>
<td>Mercy Hospital, Inc., Moundridge</td>
<td>KS</td>
</tr>
<tr>
<td>Mercy Hospital, Independence</td>
<td>KS</td>
</tr>
<tr>
<td>Mercy Regional Health Center, Inc.,</td>
<td>Manhattan, KS</td>
</tr>
<tr>
<td>Minneola District Hospital, Minneola</td>
<td>KS</td>
</tr>
<tr>
<td>Morris County Hospital, Council Grove</td>
<td>KS</td>
</tr>
<tr>
<td>Mt. Carmel Regional Medical Center</td>
<td>Pittsburg, KS</td>
</tr>
<tr>
<td>Nemaha Valley Community Hospital, Seneca</td>
<td>KS</td>
</tr>
<tr>
<td>Neosho Memorial Regional Medical Center</td>
<td>Chanute, KS</td>
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<tr>
<td>Newman Regional Health, Emporia</td>
<td>Newton, KS</td>
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<tr>
<td>Newton Medical Center</td>
<td>Newton, KS</td>
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<tr>
<td>Norton County Hospital, Norton</td>
<td>Norton, KS</td>
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<tr>
<td>Osborne County Memorial Hospital</td>
<td>Osborne, KS</td>
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<tr>
<td>Oswego Medical Center</td>
<td>Oswego, KS</td>
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<tr>
<td>Ottawa County Health Center</td>
<td>Minneapolis, KS</td>
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<tr>
<td>Overland Park Regional Medical Center,</td>
<td>Overland Park, KS</td>
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<tr>
<td>Pratt Regional Medical Center</td>
<td>Pratt, KS</td>
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<tr>
<td>Providence Medical Center-Providence Health</td>
<td>KS</td>
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<tr>
<td>Ransom Memorial Hospital, Ottawa</td>
<td>KS</td>
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<tr>
<td>Rawlins County Health Center</td>
<td>Atwood, KS</td>
</tr>
<tr>
<td>Republic County Hospital, Belleville</td>
<td>KS</td>
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<tr>
<td>Rice County Hospital District No. 1,</td>
<td>Lyons, KS</td>
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<tr>
<td>Rooks County Health Center, Plainville</td>
<td>KS</td>
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<tr>
<td>Russell Regional Hospital, Russell</td>
<td>KS</td>
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<tr>
<td>Sabetha Community Hospital, Inc.,</td>
<td>Sabetha, KS</td>
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<tr>
<td>Saint John Hospital, Leavenworth</td>
<td>KS</td>
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<tr>
<td>Saint Luke Hospital &amp; Living Center</td>
<td>Marion, KS</td>
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<tr>
<td>Saint Luke's South Hospital, Overland Park</td>
<td>KS</td>
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<tr>
<td>Salina Regional Health Center, Salina</td>
<td>KS</td>
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<tr>
<td>Scott County Hospital, Scott City</td>
<td>KS</td>
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<tr>
<td>Sedan City Hospital</td>
<td>Sedan, KS</td>
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<tr>
<td>Shawnee Mission Medical Center, Shawnee</td>
<td>KS</td>
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<tr>
<td>Sheridan County Health Complex, Hoxie</td>
<td>KS</td>
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<tr>
<td>Smith County Memorial Hospital, Smith</td>
<td>KS</td>
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<tr>
<td>Central Kansas Regional Medical Center</td>
<td>Arkansas City, KS</td>
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<tr>
<td>St. Francis Health Center, Topeka</td>
<td>KS</td>
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<tr>
<td>St. Johns Maude Norton Memorial Hospital</td>
<td>Columbus, KS</td>
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<tr>
<td>Stormont-Vail HealthCare, Topeka</td>
<td>KS</td>
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<tr>
<td>Sumner County Dist. No. 1 Hospital</td>
<td>Caldwell, KS</td>
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<tr>
<td>Sumner Regional Medical Center, Wellington</td>
<td>KS</td>
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<tr>
<td>Susan B. Allen Memorial Hospital, El Dorado</td>
<td>KS</td>
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<tr>
<td>Trego County-Lemke Memorial Hospital</td>
<td>WaKeeney, KS</td>
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<tr>
<td>University of Kansas Hospital, Kansas</td>
<td>KS</td>
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<tr>
<td>Via Christi Regional Medical Center,</td>
<td>Wichita, KS</td>
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<tr>
<td>Washington County Hospital, Washington</td>
<td>KS</td>
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<tr>
<td>Wesley Medical Center, Wichita</td>
<td>KS</td>
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<tr>
<td>Wichita Clinic, KS</td>
<td>KS</td>
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<tr>
<td>William Newton Hospital, Winfield</td>
<td>KS</td>
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<tr>
<td>Wilson County Hospital, Neodesha</td>
<td>KS</td>
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<tr>
<td>ARH Regional Medical Center, KY</td>
<td>KY</td>
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<tr>
<td>Baptist Hospital East, Louisville</td>
<td>KY</td>
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<tr>
<td>Baptist Hospital Northeast, LaGrange</td>
<td>KY</td>
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<tr>
<td>Bluegrass Community Hospital, Versailles</td>
<td>KY</td>
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<tr>
<td>Bluegrass Outpatient Center, KY</td>
<td>KY</td>
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<tr>
<td>Bourbon Community Hospital, KY</td>
<td>KY</td>
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<tr>
<td>Caldwell County Hospital, KY</td>
<td>KY</td>
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<tr>
<td>Central Baptist Hospital, KY</td>
<td>KY</td>
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<tr>
<td>Commonwealth Health Corporation, KY</td>
<td>KY</td>
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<tr>
<td>Commonwealth Health Free Clinic, KY</td>
<td>KY</td>
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<tr>
<td>Ephraim McDowell Regional Medical Center</td>
<td>KY</td>
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</tbody>
</table>
Flaget Memorial Hospital, KY
Fleming County Hospital, KY
Fort Logan Hospital, KY
Frankfort Regional Medical Center (3 campuses), KY
Georgetown Community Hospital, KY
Graves-Gilbert Clinic, KY
Hardin Memorial Hospital, KY
Harrison Memorial Hospital, KY
Hazards Hospital, KY
Highlands Regional Medical Center, KY
Jennie Stuart Medical Center, KY
Jewish Hospital, Louisville, KY
Kindred Healthcare, Louisville, KY
Kings Daughters Medical Center, KY
Kosair Children’s Hospital, KY
Lake Cumberland Regional Hospital, KY
Lexington Memorial Hospital, KY
Logan Memorial Hospital, KY
Lourdes, Paducah, KY
Manchester Memorial Hospital, KY
Marshall County Hospital, KY
Meadowview Regional Medical Center, KY
Morehead Clinic, KY
Murray-Calloway County Hospital, KY
Norton Audubon Hospital, KY
Norton Hospital, KY
Norton Suburban Hospital, KY
Our Lady of Bellefonte Hospital, KY
Pattie A. Clay Regional Medical Center, KY
Pikeville Medical Center, KY
St. Claire Regional Medical Center, KY
St. Joseph’s Healthcare, KY
Saint Joseph Berea, KY
Saint Joseph East, Lexington, KY
Saint Joseph Health System (4 facilities), KY
Saint Joseph Hospital, Lexington, KY
Saint Joseph London, KY
Saint Joseph Martin, KY
Saint Joseph Mount Sterling, KY
Saints Mary and Elizabeth Hospital, KY
The Medical Center, KY
T. J. Samson Community Hospital, KY
Three Rivers Medical Center, Louisa, KY
Trigg County Hospital, Cadiz, KY
Twin Lakes Regional Medical Center, KY
UK Healthcare Albert B. Chandler Hospital, KY
UK Healthcare Good Samaritan, KY
University of Kentucky (UK) HealthCare, KY
University of Louisville Health Care, KY
UrgentCare, KY
Western Baptist Hospital, KY
Williamson ARH (Appalachian Regional Healthcare) Hospital, KY
Williamson Memorial Hospital, KY
Christus Schumpert Hospital, LA
Christus St. Patrick Hospital, LA
Dauterive Hospital, LA
E. A. Conway Medical Center, LA
Heart Hospital of Lafayette, LA
Homer Memorial Hospital, LA
LSUHSC Huey P. Long Medical Center (2 facilities), LA
Jennings American Legion Hospital, LA
Lallie Kemp Regional Medical Center, LA
LSUHSC Shreveport, LA (3 facilities), LA
Lourdes AfterHours, LA
Lourdes Imaging Network, LA
North Oaks Health System (7 facilities), LA
Ochsner Health System (43 facilities), LA
Opelousas General Health System†, LA
Our Lady of Lourdes Regional Medical Center, LA
Point Coupee General Hospital, LA
Regional Medical Center of Acadiana, LA
Riverside Medical Center, LA
Slidell Memorial Hospital, LA
St. Francis Medical Center, LA
St. Tammany Parish Hospital (9 facilities), LA
West Feliciana Parish Hospital, LA
Women’s and Children’s Hospital, LA
Baystate Medical Center, MA
Berkshire Health Systems (BHS)†, MA
Berkshire Medical Center, MA
Beth Israel Deaconess Medical Center, MA
Boston Childrens Hospital, MA
Cooley Dickinson Hospital, MA
Emerson Hospital, MA
Fairview Hospital, MA
HealthAlliance Hospital, MA
Lowell General Hospital, MA
Marlborough Hospital, MA
Mercy Hospital, MA
Milford Regional Medical Center, MA
Noble Hospital, MA
North Adams Regional Hospital, MA
Northern Berkshire Healthcare (NBH)†, MA
South Shore Hospital, MA
UMass Memorial Medical Center, MA
Adventist HealthCare, MD
Adventist Rehabilitation Hospital, MD
Anne Arundel Medical Center, MD
Baltimore Washington Medical Center, MD
Bon Secours Baltimore Health System, MD
Braddock Hospital, MD
Calvert Memorial Hospital, MD
Carroll Hospital Center, MD
Chester River Health System, MD
Civista Medical Center, MD
Doctors Community Hospital, MD
Dorchester General Hospital, MD
Fort Washington Medical Center, MD
Franklin Square Hospital Center, MD
Frederick Memorial Hospital, MD
Garrett County Memorial Hospital, MD
Good Samaritan Hospital of Maryland, MD
Greater Baltimore Medical Center, MD
Harbor Hospital, MD
Harford Memorial Hospital, MD
Holy Cross Hospital, MD
Howard County General Hospital, MD
Kennedy Krieger Institute, MD
Johns Hopkins Medical Institute, MD
Lanham Hospital, MD
MedStar Health†, MD
Memorial Hospital at Easton, MD
Memorial Hospital & Medical Center of Cumberland, MD
Montgomery General Hospital, MD
Mount Washington Pediatric Hospital, MD
Peninsula Regional Health System, MD
Potomac Ridge Behavioral Health System
Shady Grove Adventist Hospital, MD
Shore Health System†, MD
Southern Maryland Hospital, MD
St. Agnes Hospital, MD
St. Joseph Medical Center, MD
St. Mary’s Hospital, MD
Suburban Hospital, MD
Union Memorial Hospital, MD
University of Maryland Medical Center, MD
Upper Chesapeake Health System†, MD
Upper Chesapeake Medical Center, MD
Washington Adventist Hospital, MD
Washington County Health System, MD
Western Maryland Health System†, MD

Blue Care Network, MI
Blue Cross Clue Shield, MI
Bronigess Health, MI
Bronson Healthcare Group, MI
Central Michigan Community Hospital, MI
Charlevoix Area Hospital, MI
Chelsea Community Hospital, MI
Children’s Hospital of Michigan, MI
Coldwater Community Health Center, MI
Columbia St. Mary’s Inc., MI
Community Health Center of Branch County, MI
Covenant Healthcare System Inc. (16 facilities), MI
Defiance Regional Medical Center, MI
Detroit Medical Center, MI
Doctors’ Hospital of Michigan, MI
Foote Hospital, MI
Gerber Memorial Hospital, MI
Hackley Hospital, MI
Helen DeVos Children’s Hospital, MI
Henry Ford (Dearborn) Hospital, MI
Henry Ford Healthy System, MI
Herrick Memorial Hospital, MI
Holland Community Hospital, MI
Hurley Medical Center, MI
Kelsey Memorial Health Center, MI
Keweenaw Memorial Medical Center, MI
Lakeland Community Hospital, MI
Lakeland Medical Center, Niles, MI
Lakeland Specialty Hospital, Berrien Center, MI
Lakeland Regional Medical Center, MI
Marquette General Health System, MI
McLaren Regional Medical Center (12 facilities), MI
McReynolds Hall, MI
Memorial Medical Center, MI
Mercy Health Systems North, MI
Mercy Hospital (Trinity Health), MI
Mercy Memorial Hospital System, MI
Metro Health Hospital, MI
Metropolitan Hospital, MI
Michigan Health and Hospital Association (142 affiliated facilities, including those noted on this list), MI
MidMichigan Health†, MI
MidMichigan Med Center, MI
Northern Michigan Regional Health System, MI
Oaklawn Hospital, MI
Oaktown Hospital, MI
Oakwood HealthCare System, MI
OSF St. Francis Hospital, MI
Otsego Memorial Hospital, MI
Pennington Hospital, MI
Portage Health System, MI
Port Huron Hospital, MI

9
Spectrum Health, MI
Spectrum Health Blodgett Campus, MI
Spectrum Health Butterworth Campus, MI
Spectrum Health Kent Community Campus, MI
Spectrum Health Reed City Campus, MI
Spectrum Health United Memorial, MI
Spectrum Health United Memorial Kelsey Campus, MI
Spectrum Health United Memorial United Campus, MI
St. Francis Hospital & Medical Group
St. John Health, MI
St. Joseph Mercy Hospital, MI
St. Mary’s Health Care (Trinity Health), MI
St. Mary’s Mercy Medical Center, MI
Three Rivers Health, MI
United Memorial Hospital, MI
University of Michigan Health System (3 facilities), MI
War Memorial Hospital, MI
West Branch Regional Medical Center, MI
Allina Medical Clinic, MN
Buffalo Clinic, MN
Buffalo Hospital, MN
Cloquet Memorial Hospital, MN
Fairview University Medical Center-Mesabi, MN
Grand Itasca Clinic & Hospital, MN
HealthPartners, MN
Meeker County Memorial Hospital, MN
MeritCare, MN
Mesabi Clinic, Hibbing, MN
Mesabi Clinic, Mountain Iron, MN
Mesabi Clinic, Nashwauk, MN
Olmsted Medical Center, MN
Paynesville Area Health Care System, MN
Regions Hospital, MN
Rice Memorial Hospital, MN
Winona Health, MN
Boone Hospital, MO
Citizen Memorial Healthcare, MO
Christian Hospital, MO
Columbia Regional Hospital, MO
Cooper County Memorial Hospital, MO
Cox Health (4 facilities), MO
Ellis Fischel Cancer Center, MO
Graham Medical Center, MO
MU Health, MO
Nevada Regional Medical Center, MO
North Kansas City Hospital, MO
Northeast Regional Medical Center, MO
Northwest HealthCare, MO
Ozarks Medical Center, MO
Phelps County Regional Medical Center, MO
Putnam County (4 facilities), MO
Skaggs Community Health Center, MO
SSM DePaul Medical Center, MO
SSM Health Care† (7 campuses), MO
St. John’s Health System, MO
St. Louis Metropolitan Hospital Council†, MO
St. Luke’s Northland Hospital, MO
University Hospital, MO
Anderson Regional Medical Center, MS
Baptist Memorial Hospital – Golden Triangle, MS
Calhoun Health Services, MS
Magnolia Regional Health Center, MS
Oktibbeha County Hospital, MS
Riley Hospital, MS
Rush Foundation Hospital, MS
Bozeman Deaconess Hospital, MT
Campbell County Memorial Hospital, MT
Deaconess Billings Clinic, MT
Maria Dean Medical Office Building, MT
Montana State Hospital, MT
Shodair Children’s Hospital, MT
St. Peter’s Hospital, MT
St. Peter’s Medical Group Broadway, MT
St. Peter’s Medical Group North Montana, MT
St. Vincent Healthcare, MT
All North Carolina acute care hospitals were 100 percent smokefree.
MeritCare, ND
Beatrice Community Hospital and Health Center, NE
Bergan Mercy Medical Center, NE
Blair Memorial Community Hospital, NE
Columbus Community Hospital, NE
Fremont Area Medical Center (FAMC), NE
Fort Calhoun Memorial Community Hospital, NE
Good Samaritan Society (3 facilities), NE
Hastings Regional Center, NE
Immanuel Medical Center, NE
Jennie Edmundson Hospital, NE
Lakeside Hospital, NE
Lincoln Regional Center, NE
Memorial Hospital, Schuyler, NE
Memorial Medical Center, NE
Mercy Hospital, Council Bluffs, NE
Methodist Hospital, NE
Midlands Hospital, NE
Norfolk Regional Center, NE
Oakland Memorial Community Hospital, NE
Select Specialty Hospital, Omaha, NE
Select Specialty Hospital, Papillion NE
Tekamah Memorial Community Hospital, NE
Dartmouth Hitchcock Medical Center, NH
AcuteCare Health System, LLC Specialty Hospital, NJ
AtlantiCare Healthcare System, NJ
AtlantiCare Regional Medical Center City Division, NJ
AtlantiCare Regional Medical Center Mainland Division, NJ
Atlantic Health, NJ
Atlantic Rehabilitation, NJ
Bayonne Medical Center, NJ
Bayshore Community Hospital, NJ
CAMCare (FQHC), NJ
Cancer Institute of New Jersey (CINJ), NJ
Cape Regional Medical Center, NJ
Capital Health System (3 facilities), NJ
CentraState Healthcare System, NJ
CentraState Medical Center, NJ
Children’s Hospital of New Jersey at NBIMC, NJ
Chilton Memorial Hospital, NJ (3 facilities)
Christ Hospital, NJ
Clara Maass Medical Center, NJ
Community Medical Center, NJ
Cooper Health System, NJ
Deborah Heart & Lung Center, NJ
Elmer Hospital & Regional Medical Center-Vineland, NJ
Hackensack University Medical Center, NJ
Hackettstown Regional Medical Center, NJ
HealthSouth Rehabilitation Hospital, Toms River, NJ
HEALTHSOUTH Rehabilitation Hospital of Tinton Falls, NJ
HEALTHSOUTH Rehabilitation Hospital of Toms River, NJ
HEALTHSOUTH Rehabilitation Hospital of Vineland, NJ
Hoboken University Medical Center, NJ
Holy Name Hospital, NJ
Hunterdon Medical Center, NJ
Jersey City Medical Center, NJ
Jersey Shore University Medical Center, NJ
JFK Medical Center, NJ
JFK Johnson Rehabilitation Institute, NJ
Kennedy Health System (3 facilities), NJ
Kessler Institute for Rehabilitation (at least 3 facilities), NJ
K. Hovnanian Children's Hospital, NJ
Kimball Medical Center, NJ
Kindred Hospital, NJ
Lehigh Valley Hospital, NJ
Liberty Health System†, NJ
Livingston Services, NJ
Lourdes Health System†, NJ
Lourdes Medical Center of Burlington County, NJ
Lourdes Specialty Hospital of Southern New Jersey, NJ
Marlton Rehabilitation Hospital, NJ
Meadowlands Hospital Medical Center, NJ
Memorial Hospital of Salem County, NJ
Meridian Health† (more than 70 facilities), NJ
Mountainside Hospital – Montclair, NJ
Mobile Intensive Care, NJ
Monmouth Medical Center, NJ
Morristown Memorial Hospital, NJ
Muhlenberg Campus (Solaris), NJ
Newark Beth Israel Medical Center, NJ
Newton Memorial Hospital, NJ
Ocean Medical Center, NJ
Our Lady of Lourdes Medical Center, NJ
Overlook Hospital, NJ
Palisades Medical Center – Hudson, NJ
Princeton Healthcare System, NJ
Raritan Bay Medical Center (Old Bridge & Perth Amboy), NJ
Riverview Medical Center, NJ
Robert Wood Johnson Health System – Children’s Specialized Hospital, New Brunswick, NJ
Robert Wood Johnson Health System – Robert Wood Johnson University Hospital Hamilton, NJ
Robert Wood Johnson Health System – Robert Wood Johnson University Hospital Rahway, NJ
Saint Barnabas Ambulatory Care Campus, NJ
Saint Barnabas Corporate Center, NJ
Saint Barnabas Health Care System†, NJ
Saint Barnabas Hospice and Palliative Care Center, NJ
Saint Barnabas Medical Center, NJ
Saint Barnabas Nursing and Rehabilitation Centers, NJ
Saint Barnabas Outpatient Centers, NJ
Saint Clare’s Hospital (5 campuses), NJ
Saint Michael’s Medical Center, NJ
Saint Peter’s University Hospital, NJ
Shore Memorial Hospital, NJ
Solaris Health System (3 facilities), NJ
Somerset Medical Center, NJ
Southern Ocean County Hospital, NJ
South Jersey Healthcare†, NJ
St. Clare’s Hospital, NJ
St. Francis Medical Center, NJ
St. Joseph’s Healthcare System† (3 campuses), NJ
St. Michael’s Medical Center, NJ
Trinitas Regional Medical Center, NJ
Underwood-Family Health, Glassboro, NJ
Underwood-Family Health, Mullica Hills, NJ
Underwood-Family Health, Paulsboro, NJ
Underwood-Memorial Hospital, NJ
Virtua Health, NJ
Visiting Nurse Association (16 facilities)
Warren Hospitals†, NJ
William B. Kessler Memorial Hospital, NJ

Presbyterian Healthcare Services, NM
UNM Health Sciences Center, NM

Northern Nevada Medical Center, NV
Renown/Eastern Sierra Medical Clinic, NV
Saint Mary’s Regional Medical Center, NV
St. Rose Dominican Hospitals (3 campuses), NV

A New York City, NY ordinance requires all New York City hospital grounds, as well as 15 feet surrounding those grounds, to be smokefree.

Albany Medical Center, NY
Albany Memorial Hospital, NY
Alice Hyde Medical Center, NY
Amsterdam Memorial Hospital, NY
Arnot Ogden Medical Center, NY
Bassett Hospital, NY
Bellevue Woman’s Hospital, NY
Benedictine Hospital, NY
Brookhaven Memorial Hospital Medical Center, NY
Buffalo General Hospital, NY
Carthage Area Hospital, NY
Catskill Regional Medical Center, NY
Columbia Memorial Hospital, NY
Community General Hospital, NY
Cortland Regional Medical Center, NY
Crouse Hospital, NY
DeGraff Memorial Hospital, NY
Ellenville Regional Hospital, NY
Ellis Hospital, NY
Elizabethtown Community Hospital, NY
E.J. Noble Hospital, NY
Faxton-St. Luke’s Healthcare, NY
Fox Hospital, NY
Glens Falls Hospital, NY
Helen Hayes Hospital, NY
Kaleida Health System†, NY
The Kingston Hospital, NY
Louis County Hospital, NY
Lourdes Hospital, NY
Little Falls Hospital, NY
Mather Hospital, NY
Millard Fillmore Gates Circle Hospital, NY

Millard Fillmore Suburban, NY
NewYork-Presbyterian Hospital/Payne Whitney
Westchester, NY
North Shore-LIJ Health† (14 facilities)
Northern Duchess Hospital, NY
O’Connor Hospital, NY
Onondaga County hospitals (all), NY
Orange Regional Medical Center, NY
Oswego Hospital, NY
Our Lady of Lourdes Hospital, NY
Saint Clare’s Hospital, NY
Saint Elizabeth Medical Center, NY
Saint Francis Hospital, NY
Saint Luke’s Cornwall Hospital, NY
Saint Peter’s Hospital, NY
Samaritan Hospital, NY
Samaritan Medical Center, NY
Schuyler Hospital, NY
Seton Health/St. Mary’s Hospital, NY
St. Charles Hospital, NY
St. Joseph’s Hospital, NY
Stony Brook University’s Hospital and Veterans’ Home, NY
Strong Memorial Hospital - University of Rochester Medical Center, NY
SUNY Upstate Medical University, NY
Sunnyview Rehabilitation Hospital, NY
Upstate University Hospital, NY
Westfield Memorial Hospital, NY
Women’s and Children's Hospital of Buffalo, NY

Adams County Hospital, OH
Akron hospitals (all), OH
Bay Park Community Hospital, OH
Bethesda North Hospital, OH
Brown County Regional HealthCARE, OH
Bucyrus Community Hospital, OH
Children’s Hospital at the Cleveland Clinic, OH
The Christ Hospital, OH
Cincinnati Burns Hospital, OH
Cincinnati Children’s Hospital Medical Center, OH
Cleveland Clinic Health System, OH
Columbus Children’s Hospital, OH
Doctor’s Hospital of Nelsonville, OH
Doctor’s Hospital of Stark County, OH
Drake Center, OH
East Ohio Regional Hospital, OH
Euclid Hospital, OH
Flower Hospital, OH
Fort Hamilton Hospital, OH
Fostoria Community Hospital, OH
Genesis HealthCare System†, OH
Good Samaritan Hospital, OH
Hillcrest, Mayfield Heights, Hospital, OH
Holzer Medical Center, OH
Humility of Mary Health Partners, OH
Huron Hospital, OH
The Jewish Hospital, OH
Lakewood Hospital, OH
Lehigh Valley Hospital and Health Network, OH
Lutheran Hospital, OH
Marymount, Garfield Heights, OH
McCullough-Hyde Memorial Hospital, OH
Medical College of Ohio, OH
Mercy Hospital Anderson, OH
Mercy Hospital Clermont, OH
Mercy Hospital Fairfield, OH
Mercy Hospital Mt. Airy, OH
Mercy Hospital Western Hills, OH
Mercy Medical Center, Canton, OH
Middletown Regional Hospital, OH
Rainbow Babies and Children’s Hospital, OH
Riverside Methodist Hospital, OH
Shriners Hospitals for Children, OH
South Point Hospital, OH
Southeastern Medical, OH
St. Elizabeth Medical Center, OH
St. John West Shore, Westlake, OH
St. Joseph Health Center, OH
St. Vincent Charity, Cleveland, OH
Summa Health System† (6 facilities), OH
Toledo Children’s Hospital, OH
The Toledo Hospital, OH
UHHS Bedford, OH
UHHS Brown Memorial, Conneaut, OH
UHHS Geauga Regional, Chardon, OH
UHHS Heather Hill, Chardon, OH
UHHS Laurelwood, OH
UHHS Memorial Hospital of Geneva, OH
UHHS Richmond Heights, OH
UHHS St. Michael, Cleveland, OH
Union Hospital, Dover, OH
University Hospital Health System, Cleveland, OH
University Hospitals of Cleveland, OH
Upper Valley Medical Center, OH

Bone and Joint Hospital, OK
Deaconess Hospital, OK
Edmond Medical Center, OK
Griffin Memorial Hospital, OK
Integris Baptist Medical Center, OK
Integris Southwest Medical Center, OK
Integris Valley Regional Hospital, OK
Mercy Health Center, OK
Mercy Memorial Center, OK
Midwest Regional Medical Center of Midwest City, OK
OU Medical Center, OK
St. Anthony Hospital, OK
Unity Health Center, OK
Bay Area Hospital, OR
Columbia Memorial Hospital, OR
Corvallis Clinic, OR
Cottage Grove Community Hospital, OR
Legacy Health†, OR
Meckenzee Williamette Medical Center, OR
Peace Harbor Hospital (9 facilities), OR
Rogue Valley Medical Center, OR
Sacred Heart Medical Center, OR
Saint Charles Medical Center, Bend, OR
Saint Charles Medical Center, Redmond, OR
Salem Hospital, OR
Samaritan Health Services†, OR
Southern Coos Hospital & Health Center, OR
Tuality Community Hospital, OR
Tuality Community Hospital, OR
Tuality HealthcareC , OR
Tuality HealthPlace, OR
West Valley Hospital, OR

All hospitals in the U.S. Philippines are smokefree.

Armstrong County Memorial – East Franklin, PA
Blue Mountain Health System†, PA
Carlisle Regional, PA
Chester County Hospital and Health System (9 facilities), PA
Children’s Hospital of Pittsburg UPMC, PA
Community Medical Center, PA
Doyleton Hospital, PA
East Norriton, PA
Easton Hospital, PA
Endless Mountains Health System, PA
Frankford Hospital, Bucks County Campus, PA
Geisinger Health System† (12 facilities), PA
Good Samaritan Regional Medical Center, PA
Grand View Hospital, Sellersville, PA
Greater Hazleton Health Alliance (2 facilities), PA
Hamot Medical Center, PA
Hazleton General Hospital, PA
Healthsouth Rehabilitation of Mechanicsburg, PA
Highlands Hospital, PA
Hospital & Healthsystem Association of Pennsylvania (49 facilities), PA
Johnson Regional Medical Center, PA
Holy Spirit Health System, PA
Lake Erie College of Osteopathic Medicine, CA
Lehigh Valley Hospital and Health Network†, PA
Lower Bucks Hospital, Bristol, PA
Magee Women’s Hospital of UPMC, PA
Medical Associates of Erie, PA  
Mercy Suburban Hospital, PA  
Mid Valley Hospital, PA  
Millcreek Community Hospital, PA  
Millcreek Health System†, PA  
Millcreek Manor, PA  
Moses Taylor Hospital, PA  
Penn State College of Medicine, PA  
Penn State Milton S. Hershey Medical Center, PA  
Pinnacle Health System, PA  
Pottsville Hospital, PA  
Pocono Medical Center, PA  
Reading Hospital, PA  
Royal Bolton Hospital, PA  
Sacred Heart Hospital, PA  
St. Catherine Medical Center, PA  
St. Luke’s Health Network† (4 facilities), PA  
St. Mary’s Medical Center, PA  
Susquehanna Health System (3 facilities), PA  
Twin Lakes Regional Hospital, PA  
Tyler Memorial Hospital, PA  
Uniontown Hospital, PA  
UPMC Braddock, PA  
UPMC Bredford Memorial, PA  
UPMC Eye and Ear Institute, PA  
UPMC Horizon, PA  
UPMC ISMETT, PA  
UPMC McKeesport, PA  
UPMC Montefiore, PA  
UPMC Northwest, PA  
UPMC Passavant, PA  
UPMC Presbyterian, PA  
UPMC Shady Side, PA  
UPMC South Side, PA  
Warne Clinic, PA  
Warminster Hospital, PA  
Wayne Memorial, PA  
Wilkes-Barre Veterans Medical Center, PA  
Wyoming Valley Healthcare System†, PA  

Kent Hospital, RI  

Abbeville Area Medical Center, Abbeville, SC  
Aiken Regional Medical Centers, Aiken, SC  
Allendale County Hospital, Fairfield, SC  
AnMed Health, Anderson, SC  
Beaufort Memorial Hospital, Beaufort, SC  
Bon Secours St. Francis Hospital, Charleston, SC  
Bon Secours St. Francis Health System, SC  
Cannon Memorial Hospital, Pickens, SC  
The Carolina Center for Behavioral Health, SC  
Carolina Pines Regional Medical Center, SC  
Chester Regional Hospital, Chester, SC  
Chesterfield General Hospital, Cheraw, SC  
Children’s Hospital, SC  
Coastal Carolina Center Medical Center, SC  
Clarendon Memorial Hospital, Manning, SC  
Colleton Medical Center, Walterboro, SC  
Conway Medical Center, Conway, SC  
Georgetown Hospital System, Georgetown, SC  
Grand Strand Regional Medical Center, Myrtle Beach, SC  
Greenville Hospital System, Greenville, SC  
Hilton Head Regional Medical Center, SC  
Kershaw County Medical Center, Camden, SC  
Lake City Community Hospital, Lake City, SC  
Laurens County Health Care System, Clinton, SC  
Lexington Medical Center, Lexington, SC  
Loris Healthcare System, Loris, SC  
Marion County Medical Center, Marion, SC  
Marlboro Park Hospital, Bennettsville, SC  
Mary Black Memorial Hospital, Spartanburg, SC  
McLeod Medical Center Darlington, SC  
McLeod Medical Center Dillon, Dillon, SC  
McLeod Regional Medical Center, Florence, SC  
Newberry County Memorial Hospital, SC  
Oconee Memorial Hospital, Seneca, SC  
Palmetto Health Baptist, Columbia, SC  
Palmetto Health Baptist Easley, Easley, SC  
Palmetto Health Richland, Columbia, SC  
Piedmont Medical Center, Rock Hill, SC  
The Regional Medical Center of Orangeburg, SC  
Roper Hospital, Charleston, SC  
Self Regional Healthcare, Greenwood, SC  
Sisters of Charity Providence Hospitals, SC  
Spartanburg Regional Healthcare Systems, SC  
Spartanburg Regional Medical Center, SC  
Springs Memorial Hospital, Lancaster, SC  
Summerville Medical Center, Summerville, SC  
Trident Medical Center, Charleston, SC  
Tuomey Healthcare System, Sumter, SC  
Upstate Carolina Medical Center, Gaffney, SC  
Wallace Thomson Hospital, Union, SC  
Williamsburg Regional Hospital, Kingstree, SC  
Avera Hospital, SD  
Regional Health, SD  
Sioux Valley Health Systems, SD  

Advanced Wound Care Center, TN  
Baptist Hospital, TN  
Blount Memorial Hospital, TN  
BlueCross BlueShield of Tennessee, TN  
Claiborne County Hospital, TN  
Cookeville Regional Medical Center, TN  
Gordian Health Solutions, Inc. TN  
Hickman Community Hospital, TN
Johnson City Medical Center, TN
Memorial Healthcare Systems, TN
Methodist Breast Center, Germantown, TN
Methodist Diagnostic Center, Germantown, TN
Methodist Diagnostic Center, Midtown, TN
Methodist Diagnostic Center, North, TN
Methodist Diagnostic Center, South, TN
Methodist Extended Care Hospital, TN
Methodist Fayette Hospital, TN
Methodist Le Bonheur Hospital, TN
Methodist North Hospital, TN
Methodist Sleep Disorders Center, TN
Methodist South Hospital, TN
Methodist Surgery Center, Germantown, TN
Methodist Surgery Center, North, TN
Methodist University Hospital, TN
Middle Tennessee Medical Center, TN
Minor Medical Center, Hacks Cross, TN
Minor Medical Center, Cordova, TN
Saint Thomas Health Services, TN
St. Thomas Hospital, TN
TriStar Health System (23 facilities), TN
Vanderbilt University Medical Center, TN
Williamson Medical Center, TN
Wolf River Surgery Center, TN
Wound Healing Center, Whitehaven, TN

Allison Cancer Center, TX
Arlington Memorial Hospital, TX
Baptist St. Anthony’s Hospital, TX
Christus Santa Rosa Health System† (5 facilities), TX
Community Medical Associates, TX
Good Shepherd Health System, TX
Harris Methodist (6 facilities), TX
Hillcrest Healthcare System, TX
Hillcrest Baptist Medical Center, TX
Hospice of Midland, TX
Huguley Memorial Medical Center, TX
King’s Daughters, TX
Lake Jackson Hospital, TX
MD Anderson Medical Center, TX
Medical Center Hospital, TX
Metroplex Hospital campus, TX
Midland Memorial Hospital, TX
North Texas Medical Center, TX
North Texas State Hospital, TX
Northwest Texas Hospital, TX
Odessa Regional Medical Center, TX
Parkland Health & Hospital System, TX
Permian Regional Medical Center, TX
Presbyterian Hospital (7 facilities), TX
Providence Healthcare System, TX
Providence Hospital, TX
San Angelo Community Medical Center, TX
San Jacinto Methodist Hospital, TX
Scott & White Hospital, TX
Select Specialty Hospital, TX
Texas Health Resources (19 facilities), TX
University of Texas Health Science Center at San Antonio, TX
West Texas Medical Associates, TX

American Fork Hospital, UT
Intermountain Healthcare, UT
Mountain View Hospital, UT
Orem Community Hospital, UT
Utah Valley Regional Medical Center, UT

Augusta Health, VA
Bon Secours Richmond Hospitals†, VA
Carilion New River Valley Medical Center, VA
Chesapeake Regional Medical Center, VA
Children's Hospital of The King's Daughters, VA
CJW Medical Center (3 facilities), VA
Culpeper Regional Health System†, VA
Eastern Virginia Medical School, VA
HCA Virginia Health System†, VA
Henrico Doctors' Hospital† (3 campuses), VA
Inova Health System (8 facilities), VA
Martha Jefferson Hospital, VA
Martha Jefferson Outpatient Care (plus 8 family owned affiliates), VA
Mary Washington Hospital, VA
MediCorp Health System, VA
Memorial Regional Hospital, VA
Morehead Memorial Hospital, VA
Richmond Community Hospital, VA
Rockingham Memorial, VA
Sentara Healthcare†, VA
Sentara Norfolk General Hospital, VA
St. Francis Hospital, VA
St. Mary's Hospital, VA
University of Virginia Medical Center, VA
Virginia Commonwealth University Medical Center, VA
Wright Diagnostic Center, VA

FAHC -Community Health Improvement, VT
Fletcher Allen Health Care†, VT
North County Health System, VT
Northwestern Medical Center, VT

Capital Medical Center, WA
Cowlitz County Health and Human Services Campus, WA
Evergreen Healthcare (8 facilities), WA
Evergreen Hospital, WA
Kadlec Hospital, WA  
Kennewick General Hospital, WA  
Legacy Health†, WA  
Legacy Salmon Creek Medical Center, WA  
Lourdes Hospital, WA  
Northwest Hospital, WA  
Olympic Medical Center (2 facilities), WA  
Providence Centralia Hospital, WA  
Providence Everett Medical Center, WA  
Providence Rochester clinic, WA  
Providence Saint Peter Hospital, WA  
St. Joseph’s Hospital, WA  
Virginia Mason Medical Center, WA  

Appleton Medical Center, WI  
Aurora Health Care, Manitowoc County, WI  
Aurora Health Center, WI  
Aurora Medical Center, Two Rivers, WI  
Community Health Care Wausau Hospital, WI  
Darjen Medical Center, WI  
Elmbrook Memorial, WI  
Franciscan Healthcare, WI  
Gunderson Lutheran, WI  
Janeville Family Health Center, WI  
Mercy & Unity Hospital, WI  
New London Family Medical Center, WI  
Occupational Health and Sports Medicine Center, WI  
Riverside Medical Center, WI  
Roscoe-Rockton Medical Center, WI  
St. Francis Hospital, WI  
St. Joseph’s RMC, WI  
St. Michael’s Hospital, WI  
Thea Clark Medical Center, WI  
Westside Medical Center, WI  
The Wisconsin Heart Hospital, WI  
UW Clinics (6 facilities), WI  
UW- Madison Hospital, WI  
UWM Union, WI  

Beckley ARH Hospital, WV  
Boone Memorial Hospital, WV  
Broadus Hospital, WV  
Cabin Creek Health System, WV  
CAMC (Charleston Area Medical Center) Health System, WV  
CAMC General Hospital, WV  
CAMC Memorial Hospital, WV  
CAMC Teays Valley Hospital, WV  
CAMC Women’s and Children’s Hospital, WV  
Camden-Clark Memorial Hospital, WV  
City Hospital, WV  
Davis Health System, WV  
Davis Memorial Hospital, WV  
Greenbrier Valley Hospital, WV  
Hampshire Memorial Hospital, WV  
HealthSouth Huntington Rehabilitation Hospital, WV  
HealthSouth Monongalia County Rehabilitation Hospital, WV  
HealthSouth Mountain View Regional Rehabilitation Hospital, WV  
HealthSouth Southern Hills Rehabilitation Hospital, WV  
HealthSouth Western Hills Regional Rehabilitation Hospital, WV  
Jefferson Memorial Hospital, WV  
Logan Regional Medical Center, WV  
Minnie Hamilton Health System, WV  
Monongalia Health System†, WV  
Montgomery General Hospital, WV  
Morgan County War Memorial Hospital, WV  
Ohio Valley Medical Center, WV  
Plateau Medical Center, WV  
Potomac Valley Hospital, WV  
Preston Memorial Hospital, WV  
Princeton Community Hospital, WV  
Raleigh General Hospital, WV  
Reynolds Memorial Hospital, WV  
Saint Francis Hospital, WV  
Select Specialty Hospital, WV  
St. Joseph’s Hospital of Buckhannon, WV  
St. Joseph’s Hospital of Parkersburg, WV  
Summers County ARH Hospital, WV  
Summersville Memorial Hospital, WV  
Wetzel County Hospital, WV  
Wheeling Hospital, WV  
Weirton Medical Center, WV  
West Virginia University (WVU) Healthcare and Health Sciences, WV  
WVU University Health Associates Clinics†, NJ  
West Virginia University Hospitals – East†, WV  
Wyoming Kidney Center, WY  
Wyoming Medical Center, WY

**PSYCHIATRIC HOSPITALS**

Including the following, at least 51 psychiatric hospitals have adopted 100% **smokefree building and indoor areas** policies. If a psychiatric hospital’s policy also includes all outdoor areas, it will be noted as a **campus-wide policy**.
Northstar Behavioral Health, AK
Arizona State Hospital, AZ
Center for Behavioral Health, CO
Colorado Mental Health Institute (3 facilities, campus-wide policy), CO
Connecticut Mental Health Center, CT
Connecticut Valley Health, CT
Hall-Brooke Behavioral Health Services, CT
Yale-New Haven Psychiatric Hospital, CT
Delaware Psychiatric Center, DE
Stockley Center, DE
Lee Mental Health Clinic, FL

Georgia’s seven state mental hospitals are smokefree.

Evansville Psychiatric Children’s Center, IN
Riverside Psychiatric Center, MN

Burrell Behavioral Health, MO
Cottonwood Residential Treatment Center, MO
Fulton State Hospital, MO
Hawthorne Children’s Psychiatric Hospital, MO
Metropolitan Psychiatric Hospital, MO
Mid-MO Mental Health Center, MO
Missouri Sexual Offender Treatment Center, MO
Northwestern MO Mental Health Center, MO
Southeast MO Mental Health Center, MO
St. Louis Psychiatric Rehabilitation Center, MO
Western MO Mental Health Center, MO
Behavioral Health Center, NC
Moses Cone Behavioral Health Center, NC
Ann Klein Forensic Center (campus-wide policy), NJ
Ancora Psychiatric Hospital (campus-wide policy), NJ
Greystone Park Psychiatric Hospital (campus-wide policy), NJ
Hagedorn Psychiatric Hospital (campus-wide policy), NJ
Saint Barnabas Behavioral Health (campus-wide policy), NJ
Senator Garrett W. Hagedorn Psychiatric Hospital (campus-wide policy), NJ
Trenton Psychiatric Hospital (campus-wide policy), NJ
Buffalo Psychiatric Center, NY
Capital District Psychiatric Center, NY
Elmira Psychiatric Center, NY
Ogdensburg Psychiatric Center, NY
Summit Behavioral Healthcare, Cincinnati, OH
Western Psychiatric Institute and Clinic, PA
Western State Psychiatric Hospital, VA
Vermont State Hospital (campus-wide policy), VT
Columbia River Mental Health, WA

NURSING HOMES

Including the following, at least 30 nursing homes have adopted 100% smokefree building and indoor areas policies. If a nursing home’s policy also includes all outdoor areas, it will be noted as a campus-wide policy.

SSM Health Care Nursing Homes (3 facilities)
Northern Cochise Nursing Home, AZ
Atascadero State Hospital, CA
Palomar Continuing Care Center, CA
Hospice of Siouxland, IA
Wesley Acres Retirement Center, IA
OSF Holy Family Long Term Care, IL
OSF St. Clare Home, IL
St. Mary’s Good Samaritan Nursing Home, IL
Brown County Health and Living Community, IN
Lafayette Home Hospital, IN
Beatrice Community Hospital’s Parkview Center, NE
Kno-Wal-Lin Home Care and Hospice, ME
Quarry Hill, ME
Monticello-Big Lake Community Nursing Home, MN

John Knox Village, MO

Northern Montana, MT

Bayshore Community, NJ
Kensington Manor Nursing Home and Rehabilitation Center, NJ

Andrew Michaud Nursing Home, NY
Folts Home, NY
Mohawk Valley Nursing Home, NY

Fellowship Community, PA
Gino J. Merli Veterans Center, PA

Bremerton Health and Rehabilitation Center, WA
Grandview Health Care Center, WA

St. Paul Elder Service, WI

In creating this document, the American Nonsmokers’ Rights Foundation relied on information found on the Internet, information in news articles, and information obtained from other tobacco prevention agencies. This information is accurate to the best of our knowledge; however, there may be some discrepancies due to incomplete information.

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U.S. Colleges and Universities with Smokefree Air Policies

While it has become relatively common for colleges and universities to have policies requiring that all buildings, including residential housing, be smokefree indoors, this list only includes those colleges and universities with entirely smokefree campuses, or with entirely smokefree campuses with a minor exemption for smoking in limited, remote outdoor areas.

Please note, these policies have been enacted but are not necessarily yet in effect. Please contact the school itself to verify the status of its policy.

July 5, 2010

Colleges and Universities with Smokefree Policies: Entire campus, both indoors and out

Below is a partial list of U.S. colleges and universities that have enacted 100% smokefree campus policies. There are now at least 420 100% smokefree campuses with no exemptions. Residential housing facilities are included, where they exist.

<table>
<thead>
<tr>
<th>State</th>
<th>Institutions</th>
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<tbody>
<tr>
<td>Alabama</td>
<td>Calhoun Community College</td>
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<tr>
<td>Arizona</td>
<td>A.T. Still University - Mesa</td>
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<tr>
<td>Arkansas</td>
<td>All Public Colleges and Universities (33 campuses)</td>
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<tr>
<td>California</td>
<td>Chabot College</td>
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<td></td>
<td>Cuyamaca Community College</td>
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<td>Fresno Pacific University</td>
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<td>Fullerton College</td>
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<td>Grossmont Community College</td>
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<td>Imperial Valley College</td>
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<td>Las Positas College</td>
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<td>Mesa College</td>
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<td>Oxnard College</td>
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<td>Pierce College</td>
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<td>Point Loma Nazarene University</td>
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<td>San Jose City College</td>
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<td>Santa Monica College</td>
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<td>Santa Rosa Junior College</td>
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<td>Simpson University</td>
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<td>Stanford University Medical School</td>
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<td>University of California - San Francisco</td>
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<td>University of California - Davis Medical School</td>
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<td>School</td>
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<td>West Valley-Mission Community College</td>
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<td>Woodland Community College</td>
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<td>Colorado</td>
<td>Colorado Christian University</td>
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<td>Connecticut</td>
<td>Hartford Community College</td>
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<td>Delaware</td>
<td>Widener University</td>
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<td>Florida</td>
<td>Edison State College</td>
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<td>Florida Hospital College of Health Sciences</td>
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<td>University of Florida</td>
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<td>University of Miami Medical Campus</td>
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<td>University of South Florida Health</td>
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<td>Warner University</td>
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<td>Georgia</td>
<td>Altamaha Technical College</td>
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<td>Chattahoochee Technical College</td>
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<td>(Appalachian campus)</td>
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<td>Athens Technical College</td>
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<td>College of Coastal Georgia</td>
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<td>Columbus Technical College</td>
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<td>Dalton State College</td>
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<td>Darton College</td>
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<td>Dekalb Technical College</td>
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<td>East Georgia College</td>
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<td>Gainesville College</td>
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<td>Georgia Highlands College</td>
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<td>Gwinnett Technical College</td>
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<td>Medical College of Georgia</td>
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<td>Commonwealth of Guam</td>
<td>Massachusetts</td>
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<td>Guam Community College</td>
<td>Bristol Community College</td>
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<td>University of Guam</td>
<td>Cape Cod Community College</td>
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</tbody>
</table>
York College

New Jersey

- Bergen Community College
- Burlington County College
- Camden County College
- County College of Morris
- Gloucester County College
- Raritan Valley Community College

New York

- Cazenovia College
- D'Youville College
- Maria College
- Rensselaer Polytechnic Institute
- Rockland Community College
- State University of New York - Buffalo
- SUNY - Upstate Medical University
- Wells College

North Carolina

- Asheville-Buncombe Technical Community College
- Barber-Scotia College
- Bennett College
- Blue Ridge Community College
- Cape Fear Community College
- Catawba Valley Community College
- Central Carolina Community College
- Central Piedmont Community College
- Cleveland Community College
- College of The Albemarle
- Davidson County Community College
- Forsyth Technical Community College
- Gardner-Webb University
- Greensboro College
- Guilford Technical Community College
- Haywood Community College
- High Point University
- John Wesley College
- Lenoir Community College
- Louisburg College
- Montreat College
- Peace College
- Randolph Community College
- Richmond Community College
- Roanoke-Chowan Community College
- Rowan-Cabarrus Community College
- Stanly Community College
- Vance-Granville Community College
- Wayne Community College
- Wake Technical Community College
- Western Piedmont Community College
- Wingate University
- Winston-Salem State University

Commonwealth of the Northern Mariana Islands

- Northern Marianas College

Ohio

- Hocking College
- Malone College
- Miami University
- Mount Vernon Nazarene University
- Notre Dame College of Ohio
- Ohio Christian University
- University of Toledo - Health Science Campus

Oklahoma

- Oklahoma Christian University
- Oklahoma City University
- Oklahoma State University – Oklahoma City
- Oklahoma State University - Tulsa
- Southern Oklahoma Technology Center
- St. Gregory's University
- University of Central Oklahoma
- University of Oklahoma Health Sciences Center
- Western Oklahoma State College

Oregon

- Corban College
- East West College
- Mt. Hood Community College
- Multnomah University
- National College of Natural Medicine
- Northwest Christian University
- Oregon Coast Community College
- Oregon College of Oriental Medicine
- Oregon Health & Science University
- Pacific University - Health Professions Campus
- Portland Community College
- Walla Walla University - Portland
- Warner Pacific College
- Western States Chiropractic College

Pennsylvania

- Baptist Bible College
- Butler County Community College
- Keystone College
- Lackawanna College
- Lehigh Carbon Community College
- Montgomery County Community College
- Reading Area Community College
- Widener University

South Carolina

- Aiken Technical College
- Lander University
- University of South Carolina - Upstate
- Piedmont Technical College System (7 campuses)

South Dakota

- Mount Marty College
- Oglala Lakota College

Tennessee

- East Tennessee State University
Texas
- Alamo Community College District (5 colleges)
  - Collin County Community College (7 campuses)
  - Midwestern State University
  - San Jacinto College - South Campus
- Tarrant County College
- Tyler Junior College
- University of Texas - Arlington
- University of Texas Health Science Center - San Antonio

West Virginia
- West Virginia School of Osteopathic Medicine

Utah
- Brigham Young University

Virginia
- Regent University
  - Jefferson College of Health Sciences
- Western Technical College

Colleges and Universities with Smokefree Policies: Entire campus, with minor exemptions for remote outdoor areas

Below is a partial list of U.S. colleges and universities that have enacted 100% smokefree campus policies. There are now at least 79 100% smokefree campuses with minor exemptions for remote outdoor areas. Residential housing facilities are included, where they exist.
<table>
<thead>
<tr>
<th>State</th>
<th>College</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chowan University</td>
<td>Oregon</td>
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<tr>
<td>Elon University</td>
<td>Lane Community College</td>
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<tr>
<td>Pitt Community College</td>
<td>Pennsylvania</td>
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<tr>
<td>Surry County Community College</td>
<td>Penn State University- Lehigh Valley</td>
</tr>
<tr>
<td>Western Piedmont Community College</td>
<td>Bucks County Community College</td>
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<tr>
<td>Wilkes Community College</td>
<td>Texas</td>
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<tr>
<td>Ohio</td>
<td>Alvin Community College</td>
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<td></td>
<td>Lone Star College-Kingwood</td>
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<td></td>
<td>San Antonio College</td>
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</tbody>
</table>

In creating this document, the American Nonsmokers’ Rights Foundation relied on information found on the internet, information in student and campus administration handbooks and news articles, and information obtained from other tobacco prevention agencies. This information is accurate to the best of our knowledge; however, there may be some discrepancies due to incomplete information. This document will be updated with additional hyperlinks as time permits.

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DESTINATION
TOBACCO
FREE

A PRACTICAL TOOL FOR
HOSPITALS AND
HEALTH SYSTEMS
Introduction

Hundreds of health care facilities in the U.S. make it their business to combat the devastating impact of tobacco-use, showing employees, patients, visitors and other community members their strong commitment to health. Their inspiring stories are peppered throughout Destination Tobacco-Free: A Practical Tool for Hospitals & Health Systems. This tool is designed to help you and other health care leaders develop or improve tobacco-use policies and protocols. The actions you take will save lives, assist patients, bolster employee health, safety, and productivity and, eventually, boost the bottom line.

 WHY ADDRESS TOBACCO?

Community members turn to you as a leader to help resolve pressing health issues. Every day, you see how tobacco-use harms individuals and the people who love them. You have an image to uphold, a mission to accomplish and an opportunity to model best practices. You cannot ignore tobacco:

- Half of all smokers die from their addiction.¹
- Smoking causes 443,000 premature deaths in the U.S. each year.²
- For every death, another 20 people suffer from tobacco-related illnesses.³
- Breathing secondhand smoke for even a short time can interfere with normal functioning of the heart, blood and vascular systems, increasing the risk of a heart attack.⁴
- Medical procedures involving smokers pose added risks: Smoking retards wound healing, increases infection rates in surgeries, and is the most common cause of poor birth outcomes.⁵ ⁶ ⁷
- Hundreds of hospitals have adopted tobacco-use policies that protect employees, patients and visitors from the risks of secondhand smoke and encourage tobacco-users to quit.⁸

Hospitals and other businesses frequently begin a tobacco-free initiative with their own workforce. Employees are better partners if they are tobacco-free. Most hospital workers do not smoke and at least three-quarters of those who do smoke, want to quit. If you help them, they can become your strongest allies. Furthermore, investing in tobacco-dependence treatment for employees makes business sense:

1. Health care costs for smokers at any given age are as much as 40 percent higher than those for nonsmokers.⁹
2. Employees who take four 10-minute smoking breaks a day work one month less per year than workers who don’t take smoking breaks.⁹
3. On average, smokers cost company drug plans twice as much as nonsmokers.¹⁰
4. Smokers are absent from work for sickness at least 26 percent more than nonsmokers.¹¹
5. Helping smokers quit is the most cost–effective preventive service that can be provided to employees.¹² Tobac-cessation benefits pay for themselves and can save employers money in two to four years.¹³ ¹⁴
6. Smoking harms nearly every organ of the body, placing smokers at greater risk for many chronic diseases.¹⁵
7. By creating a smoke-free workplace, a business not only can support workers in quitting tobacco, but may reduce fire insurance premiums as much as 30 percent.¹⁶
8. Children exposed to tobacco smoke are at increased risk of respiratory illnesses, middle-ear infections, and decreased lung function. Health care costs for a privately insured child of a smoker average $174 more per year than the child of a nonsmoker.¹⁷ Employers often pay these costs and for the reduced productivity, as parents care for sick children.
EXCEEDING THE STANDARD
Hospitals historically have led other businesses in adopting healthy workplace policies. In the early 1990s, accredited health care organizations became the first industrial sector to address indoor smoking through a written and enforced smoking policy. Today, the Joint Commission requires accredited hospitals to prohibit smoking in buildings, except for “patients in special circumstances,” as defined by the hospital. These patients can smoke in places that are “physically separate from care, treatment and service areas.” (EC.02.01.03 HAP) A growing number of hospitals exceed the Joint Commission standard and ban the use of all tobacco products campus-wide.

SEE APPENDIX A: JOINT COMMISSION SMOKING POLICY STANDARDS
Tobacco bans work more effectively when coupled with evidence-based tobacco-dependence treatment. Hospital regulators have measured such assistance since 2002. Core quality measures, developed by the Joint Commission and the Centers for Medicare and Medicaid Services, determine whether smokers admitted to the hospital with pneumonia, heart attacks or heart failure receive tobacco-cessation counseling. Your competitors, providers, and consumers can see how your hospital stacks up on these measures by visiting http://www.hospitalcompare.hhs.gov

The core measures touch only three tobacco-related diseases. In reality, smoking harms nearly every organ of the body. People who smoke are at greater risk for asthma, cancer, diabetes, chronic obstructive pulmonary disease and a host of other diseases and conditions.xvi xix

A growing number of hospitals exceed standards and model health by systematically addressing tobacco-use with patients, employees and visitors who use tobacco.

HOW DO YOU WORK WITH A PATIENT WHO SMOKES OR CHEWS TOBACCO?
In an era of changing roles and responsibilities, health care providers of all sorts engage in this important work: Trained clinicians provide information and tools that motivate and empower patients to quit tobacco, including a national telephone quit line, 1-800 QUIT NOW. You and your colleagues can learn to partner across units and in the community to support a patient’s decision to quit. The effort itself will help foster teamwork, meaningful measures and powerful messages that illustrate your commitment to health and reflect 21st Century medicine.
CHART YOUR COURSE

*Destination Tobacco–Free* is a practical guide with five avenues, all leading toward a tobacco-free future. Each chapter contains step-by-step directions, examples and tools:

1. **Becoming and Remaining Tobacco–Free** focuses on creating a tobacco-free campus
2. **Working with Employees** suggests ways to advance tobacco-free policies, through communications, training and health benefits
3. **Working with Patients** looks at systems, protocols and trainings for addressing tobacco-use
4. **Working with Visitors** suggests ways to respectfully enforce your tobacco-free policy
5. **Working in the Community** shows how to partner with neighbors, physicians, tobacco quit lines and others on this important health initiative

Use *Destination Tobacco–Free* to map your journey. Explore your policies and protocols chapter-by-chapter or choose a single area to develop or improve. Parcel pieces of the tool to appropriate staff. Adapt appendices to meet your needs. Explore other routes.

When the road gets bumpy, take comfort that you are addressing an addiction that kills more than 1,000 Americans every day and erodes the health and productivity of your staff. Work with board members, employees and other partners to create a tobacco-free health care organization that effectively treats tobacco addictions. No other initiative could make a greater difference in the health of your employees, patients and community.

*Destination Tobacco–Free* was created by a team of professionals from various lines of work, hospitals of different types and sizes, and respected institutions scattered throughout the country. Team members generously shared their experience, research, documents, ideas, writing, feedback and funding for *Destination Tobacco–Free*. We gratefully acknowledge and thank them for their outstanding work.

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BECOMING AND REMAINING TOBACCO-FREE
BECOMING AND REMAINING TOBACCO-FREE

Show your commitment to health, not only by how you design or redesign your tobacco-use policy, but by the ways you engage employees and community members to sustain and expand your efforts.

Winning strategies include visible commitment from the top and a strong team that includes a clinical champion, front-line workers from various departments and a respected manager to coordinate the day-to-day work. You can develop an initiative through a process that lasts anywhere from six to 18 months. Be sure to include clear and frequent communications through each of the three basic stages:

1. **Preparation**
2. **Implementation**
3. **Evaluation**

**PREPARATION**

First and foremost, be ready to succeed with your new tobacco-free policy. Preparation includes seven steps:

1. Research the issue.
2. Demonstrate high-level enthusiasm, clinical support and partnership with labor.
3. Form a team to oversee the project.
4. Create a timetable.
5. Gain employee commitment through effective communication.
6. Develop a fair policy.

1. **Research the issue.**

Collect information that will help you effectively make your case and guide your process. Ask questions within your workplace and community. Health risk appraisals can offer aggregate data about employee tobacco-use. You may also poll employees directly about their tobacco-use, perceptions of the current tobacco-use policy and ideas for policy changes. Consider conducting such surveys in partnership with the labor groups and professional associations that employees trust. To conduct a survey, check with your information technology staff or consider a web-based service such as [www.surveymonkey.com](http://www.surveymonkey.com)

> See Appendix B: Understand your Community and Facility

2. **Demonstrate high-level enthusiasm, clinical support and partnership with labor.**

As a leader, your personal buy-in is critical to the success of your tobacco-free policy. Publicly embrace the new policy and remain visible throughout its development. Find a clinical champion to help carry the torch and integrate tobacco-cessation into your procedures. Some hospitals secure a physician for this leading role, while others have engaged nurses, pharmacists or respiratory therapists. In any case, take a labor-management approach that frames the new policy as a health and safety issue, not a punitive action. Assign a respected manager to coordinate the effort, and work closely with the clinical champion and the rest of the team.

Ideally, a CEO or medical director will announce the policy in partnership with labor. The announcement, in-person and through a memo, needs to include the rationale behind the new policy, a target date and the name of the manager assigned to coordinate the effort. Engage partners by sharing and eliciting stories about how your efforts improve the quality of care you deliver and make a difference to individuals and the community.

> See Appendix C: Sample Announcement
3. Form a team to oversee the project.
A strong team will build a successful initiative. Invite representatives from all segments of your organization. Your roster of 15 to 30 people may include your physician champion, a health educator, and representatives from nursing, pharmacy, security, facilities, personnel, intake, chemical dependency recovery, public affairs and unions. Include both employees who smoke and those who do not smoke. Tasks for this group may include conducting focus groups, revising the smoking policy and procedures and developing tobacco-cessation programs and resources for employees and patients.

> See Appendix D: Tobacco-Free Policy Template

4. Create a timetable.
Develop a clear process that engages workers and the community and respects the concerns of opponents, while maintaining a focus on health and safety. Forge a detailed plan that assigns clear responsibilities and timelines. Be sure to incorporate communication in every aspect of your work. Some organizations create a separate communications plan.

> See Appendix E: Sample Timetable

5. Gain employee commitment through effective communication.
You may encounter adamant opposition and resounding support, both from within the organization and from the outside community. You will be most successful if you allow ample time to discuss proposed changes and expected positive outcomes with a variety of audiences, engaging them in planning whenever possible.

Based on what you learn, develop an internal and external marketing plan. Craft three or four simple messages that explain why you want to address tobacco-use in your facility, what you hope to accomplish and your underlying concern for constituents. Maintain a consistent message, but engage a variety of credible messengers who can frame the message for different audiences.

> See Appendix F: Frequently-Asked Questions

Here are some messages you may wish to adapt for different audiences:

"We are developing this policy to provide a healthy and safe environment for employees, patients and visitors and to promote positive health behaviors."

"Policies that discourage smoking can improve our outcomes: Smoking retards wound healing, increases infection rates in surgeries and is the most common cause of poor birth outcomes."

"We are not saying you must quit smoking. But we are saying you cannot use tobacco while you are at work. If you are ready to quit, we want to support your efforts."

Plan to incorporate communications into your timeline, engaging both internal and external audiences. Include in your plan:

- Advance notice (at least six months) of the implementation date
- Tobacco-free policy education sessions
- Tobacco-dependence treatment trainings
- Brochures and posters announcing the countdown to implementation
- Letters and brochures for medical practices and other partners in the medical community
- Cards and table tents with information on the tobacco-free policy to share with visitors and patients upon implementation
- Cessation resources to assist tobacco-users who want to quit
Media strategy, including news releases, a news conference and human interest stories

Permanent signs on grounds, entrances and inside all facilities

As your initiative unfolds, remember that success stories inspire people. Weave them into messages. Look for champions within your institution or at other facilities with strong tobacco-cessation programs. Highlight staff who have quit smoking, motivated others to quit or improved quality of care in the institution and community by addressing the deadly addiction to smoking.

> See Appendix G: Sample Communications Plan

6. Develop a fair policy.

Craft a clear tobacco-free policy with accountability and periodic reviews. Effective policies include:

- Purpose of policy
- Products covered under policy (i.e. Does the policy apply to smokeless tobacco?)
- Definition of how policy applies to employees, patients and visitors
- Physical boundaries of policy (e.g. private vehicles, company equipment, etc.)
- Support to help employees, patients and visitors comply, including cessation services
- Clear enforcement rules and consequences
- Name of contact who can answer questions and address concerns
- Policy-review process

Some hospitals adopt a dress code that reinforces their tobacco-use policy. Employees at Regions Hospital in St. Paul, Minnesota can be sent home without pay if they smell like smoke: "Use of cologne, perfume, perfumed products (hand/body lotion, etc.) or after-shave is discouraged, and if worn should be minimal and not noticeable by others. Fragrance-free areas may be defined by individual departments. Smoke odors are prohibited."

If you allow exceptions to your policy, be sure to explain the process for granting them, such as a decision by a committee of two or three individuals. The purpose of setting up this seldom-used mechanism is to prevent individual physicians or others from granting routine exceptions.

Regions Hospital has developed a process for patients wanting to use tobacco for religious ceremonies:

"Certain religious groups may request to burn tobacco as part of their religious / spiritual practices. This will be allowed in the hospital chapel with prior approval from Pastoral Services. Pastoral Services staff must be present during the burning ceremony."

> See Appendix D: Tobacco-Free Policy Template


It will be easier to sustain your policy if you align it with proven systems that measure and reduce tobacco-use. These include employee assessments, health benefits, patient records, drug formularies, standing orders and billing.

A. Assess employees.

If you want to measure your program’s effectiveness, collect up-front data. Survey employees to find out how many use tobacco. Many companies use a health-risk assessment (HRA) tool to gauge smoking levels.

Evanston Hospital in Evanston, Illinois and many other hospitals and businesses offer financial incentives to employees who take the HRA. The HRA vendor provides aggregate data to the human resources department and encourages individual tobacco-users to quit.
B. Invest in effective tobacco-cessation benefits or services for employees.
Successful quitting can take multiple tries using a variety of aids. Reduce treatment barriers to encourage smokers to get help, prevent relapse and eventually quit. Tobacco-cessation benefits that have been found to be most effective cover the following:

- Counseling and medications, together or separately
- Counseling services, including telephone, individual, and group counseling
- Multiple counseling sessions over a period of several weeks or more
- FDA-approved medications, including bupropion, varenicline and both prescription and over-the-counter nicotine replacement medication

Show tobacco-users you understand the chronic nature of tobacco-dependence by designing a benefit that makes it easier for them to successfully quit:

- Require employees to pay no more than the standard co-payment. Data show that smokers are much more likely to try to quit when no co-payment is required.
- Provide at least two courses of treatment per year.
- Offer a variety of options for psychosocial treatment and medications.

For more information about tobacco-cessation benefits or services, go to [www.makeityourbusiness.net](http://www.makeityourbusiness.net)

C. Routinely identify a patient’s tobacco-use status.
If you systematically identify a patient’s smoking status in your intake process, staff can tap into the “teachable moments” at your facility and help a patient begin the quitting process. Chart stickers or electronic screens with tobacco-use as a vital sign can prompt clinicians to advise smokers to quit and help them when they are ready. A vital sign indicating that a patient is a tobacco-user can trigger an electronic or fax order to treat the patient.

> See Appendix H: Chart Sticker Template

Evanston Hospital incorporated smoking status, clinician prompts and community resources into its electronic medical records.
D. Assure that effective tobacco-cessation treatment is included in your formulary and routinely delivered to smokers who want to quit.

Thousands of studies show that tobacco-cessation medications and counseling are safe, efficacious and cost-effective ways to help tobacco-users quit. Work with your pharmacy and therapeutics committee to assure that the full range of tobacco-cessation medications are part of your formulary. Assign staff to help tobacco-users begin the quitting process while in the hospital or refer them to community resources they can use when they are ready. Develop standing orders so hospital staff can use that teachable moment in your facility to help tobacco-users quit.

> See Appendix I: Pharmacologic Product Guide
> See Appendix J: Sample Standing Orders to Initiate Tobacco-Cessation Treatment

E. Bill for tobacco-dependence treatment.

Reimbursement for tobacco-dependence treatment, though inconsistent from plan to plan and state to state, is improving. Insurance payments are generally low, but public or private insurers may cover at least some aspects of treatment, generally as a medical benefit.

Regardless of the patient’s coverage, you are more likely to qualify for reimbursement if tobacco-dependence treatment is associated with another medical concern. Medicare covers both counseling and medications. A growing number of state Medicaid plans have added counseling, medications, or both to their benefits. Some private health plans cover the full range of tobacco-dependence treatments. Others explicitly exclude tobacco-related addiction from any coverage. For patients admitted with psychiatric or chemical-dependency issues, you may be able to integrate smoking cessation into routine addiction psychosocial treatment.xxiii

Your billing department will need to investigate tobacco-dependence treatment coverage in your locale and integrate billing into your system. For further details on reimbursement, including codes, see Working with Patients, page 21.

You and your colleagues can use your knowledge and experience to advocate for better tobacco-dependence treatment coverage. As both employers and providers, you can demand, use and bill for these important services, considered best-practices in the Public Health Service Guideline.xxiii

IMPLEMENTATION

If you adequately prepare staff, patients, and community members for your transition to a tobacco-free environment, you will find partners eager to help implement your new policy. Implementation includes four critical steps:

1. Train staff.
2. Post effective signs.
3. Celebrate your commitment to health.
4. Enforce your policy.

1. Train staff.

Before you implement your policy, be sure that all employees, from intake to discharge, understand their responsibilities and have the tools and training they need to succeed. Staff will feel more pride in their work if they see how their contribution fits within the context of your broader health mission. It also is important that they understand how treatment protocols are entwined with the tobacco-free policy.

In addition to formal trainings on the policy, consider ways to share information as part of regular meetings, inservices and through Grand Rounds. Remember to set up periodic trainings to accommodate new staff and changing circumstances.
Oregon Health & Science University, which developed a tobacco-free campus in 2007, developed video vignettes to train staff on respectful ways to enforce the new policy. [http://www.ohsu.edu/ohsuedu/about/tobaccofree/training-resources.cfm](http://www.ohsu.edu/ohsuedu/about/tobaccofree/training-resources.cfm)

> See Appendix K: Enforcement Scripts
> For trainings related to patient care, see Working with Patients, page 22.

2. Post effective signs.
The most important way to publicize your smoke-free policy is by posting visible signs with clear messages. Before you purchase and post signs consider:

- Your signage budget
- Number of signs you need
- Type of material you want (e.g., wood, metal, plastic)
- Your message
- Logos you need on the signs
- Necessary approvals for signage
- Language considerations
- Timeline

Experience from hospitals shows that simpler messages are more effective. Some hospitals have observed that people become “sign blind” over time, creating a need to post different images or reminders.

> See Appendix L: How much will it cost?
> For more information about signage, see Working with Visitors, page 26.

3. Celebrate your commitment to health.
Celebrate your first tobacco-free day. Thank partners, build support, educate staff and employees, publicize your efforts, and have some fun.

The 14,000-employee University of Michigan Health System devised a six-month countdown before “Happy & Healthy Heart Day,” February 14, 1999, when it established a tobacco-free policy for all 67 sites. As the countdown numbers on the web site declined, the tobacco program stepped up communications. Every week during the six months prior to implementation, tobacco program staff launched a communiqué. These ranged from pig lung displays in the lunchroom to advertisements on local radio stations. The night before the big day, grounds crews eliminated every last ash urn and smoking area, posting signs welcoming Happy & Healthy Heart Day. All employees, patients and visitors were invited to share the sheet cake that marked the day.

Since then, the hospital tobacco program has continued to celebrate with Happy & Healthy Heart Day anniversaries and November celebrations to honor inspirational employees and help staff quit tobacco.

4. Enforce your policy.
Enforcement procedures need to be clearly delineated in your tobacco-free policy. Deter potential problems by differentiating enforcement methods for employees, patients and visitors.
EMPLOYEES
Most hospitals handle a staff or employee violation of the policy as a personnel issue. In some facilities, an employee who observes a co-worker smoking is asked to make a confidential, “good faith” report to a supervisor, manager or human resources specialist. Supervisors need to consistently enforce the rules, which need to be clearly explained.

PATIENTS
Tobacco-use by patients is generally viewed within the context of care. If your hospital does not permit tobacco-use, you must enforce the ban. Nicotine-replacement therapy can relieve withdrawal symptoms while you are treating a patient in the hospital. Some hospitals stipulate that patients who leave the facility to smoke are discharged for leaving “against medical authorization.” This can relieve the hospital of liability for any adverse event that may occur while the patient is off-campus using tobacco. Whatever your policy, inform all patients at intake or earlier if possible.

> See Appendix M: Sample Patient Release Form

VISITORS
Visitors generally comply easily when informed of a tobacco-free policy. Encourage employees to take a gentle approach with visitors. If visitors refuse to comply, ask them to please pick up their cigarette butts. Consider having a procedure in place in the rare case that a tobacco-use violation poses a potential safety threat to the property or to another person. In such cases, security staff generally intervenes.

Hospitals may expect staff to inform visitors of the tobacco-free policy. Employees generally appreciate having a card or brochure they can hand to the visitor that explains the hospital’s rationale for its policy and provides information about quitting.

The University of Michigan Health system provides visitors with a map of its smoke-free campus.
EVALUATION

Plan team meetings after you implement your new policy, aimed not at pointing fingers, but achieving better results. Experts suggest meeting a week after the policy goes into effect, monthly for three months, and every six months thereafter. Use the information you gather to report your progress, plan future projects, improve your efforts and sustain the initiative.

In your ongoing evaluation:

1. **Assess your process.**
   - What tasks are missing?
   - Did you communicate aptly and often with staff on every relevant item?
   - Did you allot adequate time to do a quality job?
   - Did you assign responsibility to an appropriate and responsible person?

2. **Monitor your outcomes.**
   Compare your goals with your outcomes. Here are some questions to consider:
   - What is the impact of the new policy on visible smoking?
   - How many violations have you had?
   - Are there fewer violations over time?
   - How has the new policy impacted staff tobacco-use?
   - How many employees have attempted to quit tobacco?
   - How many have succeeded?
   - How many patients have been discharged for smoking against medical authorization?
   - How many patients say they want to quit?
   - How many patients started their quit attempt while in your facility?

3. **Consider your lessons.**
   - What factors contributed to your success?
   - What barriers limited or threatened success?
   - How were barriers addressed?
   - What were the relative costs, including staff time, and results of different aspects of your efforts?
   - Did some activities appear to work as well as others but cost less?

4. **Forge recommendations.**
   - What are the next steps?
   - How can you expand your efforts into the broader community?
   - What new partners can help you?
   - What would you have done differently?
WORKING WITH EMPLOYEES
A keen understanding of workforce tobacco-use will help you develop a successful tobacco-free initiative. (See Understand Your Community and Facility, Appendix B.) At the outset, employees who see on-campus smoking as a hindrance to quality care will resoundingly support the effort. Staff members who oppose the tobacco-free initiative are less likely to enforce the policy or help patients quit. You will need to lead both supporters and detractors with resolve and understanding.

**Your efforts will be more successful if you:**

1. Clearly communicate your intention to become tobacco-free, explaining why.
2. Elicit, listen to and respond to employee concerns.
3. Support employees who want to quit tobacco.
4. Educate employees about the policy and enforce it fairly.
5. Develop clear lines of responsibility, providing appropriate training for employees at each level.
6. Give employees the tools and training to help patients quit.
7. Celebrate employee successes.
8. Provide ongoing support and training.

1. **Clearly communicate your intention to become tobacco-free, explaining why.**

Inform all employees of your plans early in your process. Smokers need time to get used to the idea of a smoke-free campus. Smokers who want to quit will be more successful if they have time to prepare. Provide employees with information about other hospitals and businesses in your area that have taken similar actions.

Craft a few simple messages that explain why you want to address tobacco-use in your facility, what you hope to accomplish, and your underlying concern for constituents. Key messages to employees may include:

- "*We are developing this policy to provide a healthy and safe environment for employees, patients and visitors and to promote positive health behaviors.*"
- "*Policies that discourage smoking can improve our outcomes: Smoking retards wound healing, increases infection rates in surgeries and is the most common cause of poor birth outcomes.*"
- "*We are not saying you must quit smoking. But we are saying you cannot use tobacco while you are at work. If you are ready to quit, we want to support your efforts.*"
- **Starting (DATE), we will no longer permit use of tobacco products on our campus.**
- **(Name of a trusted manager) will be responsible for this initiative. Please contact her/him if you have suggestions to improve our process or if you have questions or concerns.**

As you discuss this initiative, remember that success stories inspire. Weave them into messages. Look for champions within your institution or at other facilities with strong tobacco-dependence treatment programs. Highlight staff who have quit smoking, motivated others to quit, or improved quality of care in the institution and community by addressing the deadly addiction to smoking.

> See Appendix C: Sample Announcement
2. **Elicit, listen to and respond to employee concerns.**

Allow employees and managers time to express concerns and prepare for changes. Hold discussions with individuals, groups, departments and the public, emphasizing how an addiction to smoking impacts health, safety and recovery.

Tobacco-use policies can raise prickly issues between labor and management. Some labor unions voice concerns that new rules infringe upon member rights. The fact is, there is no constitutional right to smoke, but you have a right to create a tobacco-free environment within your buildings and grounds. Prior to adopting a tobacco ban, some hospitals express fears that the initiative will drive employees to leave the facility or organize a union. Reports from across the country show that such fears are largely unfounded and, in most cases, labor organizations are effective and trusted partners who do not oppose tobacco-free efforts.

It is important that employees who are not ready to quit tobacco are educated about ways to endure their shifts without using tobacco. They also need to know what the rules are about using tobacco while on the clock.

> See Develop a fair policy, page 4, Enforce your policy, page 8, and Appendix D: Tobacco-Free Policy Template.

Listen to employee concerns, while moving the policy forward. Successful tobacco-free initiatives engage labor and management as partners, frame smoking as a health and safety issue, support tobacco-users who want to quit and enforce the rules fairly with all employees and managers.

> See Appendix F: Frequently-Asked Questions

3. **Support employees who want to quit tobacco.**

Staff members who smoke may be more likely to oppose the tobacco-free campus initiative and less likely to help patients quit. Show them you understand the challenges they face by investing in support that can help them quit. By providing quitting help prior to implementing a tobacco-free policy, you can prepare employees for the change and begin honing a cessation delivery system for patients.

The most effective tobacco-dependence treatments include counseling or coaching, cessation medications and social support. Structure your tobacco-cessation benefits and services, including your employee assistance program, to:

- Cover counseling services, including telephone, group and individual counseling
- Offer several counseling sessions over a period of several weeks
- Offer the FDA-approved medications, including bupropion, varenicline, and prescription and over-the-counter nicotine-replacement medication,

Design a benefit that makes it easier for tobacco-users to successfully quit:

- Require employees to pay no more than the standard co-payment. Data show that smokers are much more likely to try to quit when no co-payment is required.
- Provide at least two courses of treatment per year.
- Offer a variety of options for counseling and medications.
- Provide tobacco-dependence treatment for spouses, significant others and dependents.

Consider tobacco-dependence treatment an investment. Kaiser Permanente of Northern California subsidizes tobacco-dependence treatment because it determined that the costs of smoking are much greater than the costs of encouraging quit attempts. Employees and members enrolled in an approved tobacco-dependence treatment program can obtain cessation medications for a standard co-payment.
In addition to the assistance you provide, be sure to tell employees about 1-800-QUIT NOW, a national portal to a quit line in your state. To learn what your state quit line offers, visit [http://1800quitnow.cancer.gov/](http://1800quitnow.cancer.gov/)

4. **Educate employees about the policy and enforce it fairly.**

Share the policy with employees as early as possible in multiple forms. Be sure employees understand how the policy will impact them, including:

- Stages of implementation
- Their role in enforcement
- Consequences for not complying with the policy
- How the policy fits with treatment protocols
- Ways to join planning efforts
- Trainings available about the policy
- Measures and celebrations of successes
- Who to speak with about concerns or problems

Provide employees with copies of the policy as soon as it is available. Take the opportunity to educate employees of the policy through meetings, internal communications, banners and signs.

5. **Develop clear lines of responsibility, providing appropriate training for employees at each level.**

In many hospitals, the entire staff is expected to educate patients, co-workers and visitors about the tobacco-use policy. Although hospital personnel are accustomed to instructing patients on how to take care of themselves, they sometimes feel awkward talking about tobacco-use. Equip employees with a clear understanding of your tobacco-use policy and how it applies differently to co-workers, patients and visitors.

Intake staff, human resources, supervisors and security need training to perform particular roles:

- Intake staff informs all patients of the tobacco-use policy, its purpose, the assistance that will be available and the consequences of unauthorized smoking.
- The human resources department educates all job applicants and new employees about the policy.
- Supervisors consistently follow procedures in working with those who violate the policy.
- Security staff intervenes with visitors in the rare instances that simple education is not enough.

Make sure those most likely to have contact with other employees and visitors are trained in helpful, positive approaches to enforcing the policy. This could include greeters or security staff stationed near exits or entrances. They will need to learn to respectfully escort tobacco-users from the campus and invite them to return when they have finished smoking.

Your tobacco-free policy is designed to provide a safe and healthy environment and model healthy behaviors. As you enforce the policy, provide as much help as possible. Educate people about the policy. As appropriate, offer symptom relief for tobacco-users during their stay, encourage tobacco-users to quit when they are ready or direct visitors to places where they are allowed to smoke. Keep discussions about the tobacco-use policy brief and non-confrontational.

> *See Appendix K: Enforcement Scripts*
6. **Give employees the tools and training to help patients quit.**

   Every tobacco-user who steps into your hospital presents a “teachable moment.” Most smokers want to quit. And patients who are in the hospital because of tobacco-related illness can be particularly motivated to break their addiction.

   Make sure staff members understand how they fit into a cohesive health and safety strategy that addresses patient tobacco-use. Train clinicians on the protocols, systems, coaching, and medications that can help patients begin the quitting process. A variety of live or on-line trainings in tobacco-dependence treatment is available for different types of clinicians. In addition to formal trainings, consider ways to share information in regular meetings, in-services, and through Grand Rounds.

   Regardless of how you treat tobacco-dependence, patients are more likely to remain abstinent if they have community support. Provide hospital staff with information about community resources, including the telephone quit line, which can be reached by calling 1-800-QUIT NOW.

   > See Working with Patients, page 15.

7. **Celebrate employee successes.**

   Some things are worth celebrating: health, safety, clean air. New systems that lead to excellence. New partners that improve health. A person’s first day without tobacco.

   Look for ways to celebrate employees who do battle with their nicotine addiction and those who help create and sustain a tobacco-free campus. Share good news about improved outcomes for your facility.

   Consider how celebration can shift the culture from turning a blind eye to smoking to honoring those who assist the people who confront their gripping addiction.

8. **Provide ongoing support and training.**

   Tobacco-use and dependence is a chronic issue you will need to address on an ongoing basis. Employees who quit using tobacco for a time, then relapse, will need support to quit again. New employees will need training on how to address tobacco-use at your facility. Finally, as you evaluate your process for addressing tobacco, you may need to change elements of your work. Such changes will require additional training.
WORKING WITH PATIENTS
Every tobacco-user who steps into your hospital presents a “teachable moment.” Most smokers want to quit. Hospital patients are essentially captive in a facility that bans smoking with staff who can support them. Some studies suggest that these patients have relatively few difficulties with nicotine withdrawal symptoms, making it an opportune time for them to try to quit for good.

Clinicians can help hospitalized patients understand how smoking directly impacts their health. Continued smoking heightens the risk of successive heart attacks or second primary tumors in cases of cancer of the lung, head, or neck. Even if tobacco-use is not the cause of the hospital admission, continued smoking can impair health in other ways, including:

- Delayed wound healing
- Increased risk of infection
- Cardiopulmonary complications
- Longer postoperative care
- Poor surgical results

Demonstrate your commitment to health by systematically addressing tobacco-use with every patient at every opportunity. Follow these steps, developed by hospitals around the country, to create and sustain an evidence-based program:

1. **Build a multi-disciplinary team with strong champions.**
   
   An action-focused team with members from all segments of your organization will propel your initiative to success. Be sure your committee includes a respected physician or other clinical champion who can rally support for your tobacco-treatment program, link various departments of the hospital and help navigate clinical challenges for patients and health care workers.

   Over time, engage more champions as they emerge. They may be health educators, nurses, pharmacists, physicians, or people who work in security, facilities, personnel, intake, chemical dependency recovery, public affairs or as union representatives.

   Assign treatment issues to a subcommittee of your tobacco-free campus team (See Becoming and Remaining Tobacco-Free, page 3). A qualified team from various disciplines can define clinical goals, forge protocols and systems and develop evaluation criteria. Members may include clinicians from a variety of disciplines, including cardiologists, oncologists, hospitalists, physical therapists, pharmacists, nurses, respiratory therapists, anesthesiologists and emergency physicians. Your team also may include representatives from quality improvement, patient education, medical records and labor unions.

   Consider using a pharmacy resident or intern, required to work on a special project, to document processes or develop protocols for your tobacco-treatment program.
2. Establish systems for identifying, treating and referring patients to help.

Your patient treatment team can assess how you address tobacco-use, then develop or improve systems to optimize your teachable moment. Some hospitals test treatment protocols with employees who want to quit tobacco, and then hone the protocols for patients. Regardless of your systems, incorporate respectful interactions about tobacco with every patient at every opportunity.

Ask yourselves, "How do we address tobacco-use?" in the following situations:

a. Before a patient is admitted to the hospital
b. At inpatient and emergency department admissions
c. Upon transfer to other floors and departments
d. Through medical records
e. In your formulary
f. Through patient protocols
g. While a patient is in the hospital
h. When you discharge a patient
i. In your billing system

Before a patient is admitted to the hospital

There’s a teachable moment for a patient having elective surgery or another scheduled procedure before he or she ever sets foot in the hospital. If you tell a patient he can’t smoke at the hospital and that quitting could improve the results of the procedure, he may cut back or even quit for good. A Swedish researcher found that quitting smoking at least four weeks prior to surgery decreased surgical complications by almost half. Complications, such as wound infections, add significantly to the length and cost of a hospital stay, providing patients with both a health and economic incentive to quit before hospitalization. In the study from Sweden, 58 percent of those who were offered assistance, quit smoking prior to surgery. One-third of those who quit remained abstinent for more than a year after surgery.xxxiii

Incorporate information about your tobacco-free policy and the benefits of quitting tobacco in patient correspondence and surgical practices. Pre-surgical evaluation clinics also are effective locations to routinely incorporate tobacco-cessation interventions.

The American Society of Anesthesiologists web site posts resources that your hospital or clinic can use to help patients quit smoking before and after surgery, including brochures and cards directing patients to the tobacco quit-line number, 1-800-QUIT NOW. www.asahq.org/stopsmoking These materials can be licensed, branded and systematically distributed to preoperative patients, helping you meet and exceed regulatory requirements to provide tobacco-cessation information.

At inpatient and emergency department admissions

Include questions about tobacco-use on your inpatient and emergency-department admissions forms. Patient responses can trigger appropriate interactions about tobacco-use policies, ways to alleviate withdrawal symptoms and quitting assistance.
Hospital protocols vary. The University of Massachusetts Memorial Health Care assesses patients for tobacco-use upon admittance to inpatient units and the emergency room. Patients are informed of the hospital’s tobacco-free policy and offered nicotine-replacement therapy to alleviate withdrawal symptoms. A member of the tobacco consultation service will later visit tobacco-users to assess them for nicotine withdrawal symptoms and readiness to quit, sometimes using a carbon monoxide monitor to show how smoking affects their health. Upon discharge, the tobacco specialist works with patients and clinicians to develop a plan that addresses the patient’s tobacco-use.

At the University of Michigan Health System, within 24 hours after a tobacco-user is admitted to the hospital, a tobacco-treatment counselor will visit. The counselor notifies the patient of the hospital’s smoke-free policy, offers nicotine-replacement therapy to alleviate withdrawal symptoms during the hospital stay and assesses the patient’s readiness to quit using tobacco.

**Upon transfer to other floors and departments**

A patient’s motivation to relieve nicotine-withdrawal symptoms or quit tobacco may change once admitted to the hospital or moved to another department. Develop systems to reassess a patient’s motivation to quit.

Bedside nurses at Mayo Clinic initiate discussions about tobacco-use with patients. They are trained and empowered to ask patients about tobacco-use, order nicotine-replacement therapy to relieve withdrawal symptoms, provide information about tobacco-dependence treatment and initiate a more intensive treatment by a tobacco-treatment specialist. This system does not depend upon physician referral. Mayo Clinic, which increased specialist referrals by 50 percent in the first two years of adopting this protocol, is incorporating its tobacco-treatment protocols into an electronic medical records system.xxxiv

**Through medical records**

Whether your patient medical records are electronic or paper, include tobacco-use as a vital sign. In Oregon’s Silverton Hospital, the electronic medical record is designed to initiate help for a patient who uses tobacco. The record calculates the appropriate dose of nicotine-replacement therapy, based on a patient’s degree of addiction. This information is faxed to the pharmacist. A tobacco-treatment specialist assists every patient who expresses a desire to quit.

Electronic medical records can trigger help for smokers who want symptom relief or who feel ready to quit.
In your formulary
The Food and Drug Administration has approved seven medications to help people quit tobacco. Patients entering your facility may already use some of these or may have found one of the medications effective in relieving cravings. Work with your hospital and therapeutics committee to assure that these patients and others who want to quit have access to the full range of evidence-based options.

Include all seven of these FDA-approved medications in your formulary:

- Five nicotine-replacement therapies relieve cravings and withdrawal symptoms. They are available in different forms, including gum, lozenges, nasal spray, inhaler, or patch, both as prescription and over-the-counter.
- Bupropion SR, a sustained-release tablet, reduces withdrawal symptoms by preparing the body for the stress of quitting. It is commonly used to treat depression.
- Varenicline, sold as Chantix™, reduces the pleasant effects of nicotine on the brain.

> See Appendix I: Pharmacologic Product Guide

Through patient protocols
The patient treatment team can discuss who can best implement which procedures and how you integrate the steps.

> See Appendix N: Sample Clinical Practice Guideline
**COUNSELING ALGORITHM FOR TOBACCO CESSION**

ASK ABOUT TOBACCO USE.
“Have you smoked or used any form of tobacco in the past month?”

- **Yes**
  - ADVISE PATIENT TO QUIT. ASSESS READINESS TO QUIT.
    “Are you planning to quit in the next month?”
    - **Yes**
      - PROVIDE REFERRAL.
        Provide patient with brief, tailored motivational counseling and educational handout(s).
        Discuss options for additional smoking cessation assistance, and provide referral.
        Congratulate patient on decision to quit.
        END
    - **No**
      - Apply tailored, motivational counseling and provide educational handout(s).
      - Encourage patient to seriously consider quitting.
      - END
- **No**
  - ASK ABOUT FORMER TOBACCO USE.
    “Have you ever smoked or used any form of tobacco?”
    - **Yes**
      - ASSESS LAST QUIT DATE.
        “When was the last time you smoked or used any form of tobacco?”
        - **< 1 yr ago**
          - Provide relapse prevention counseling.
          - Congratulate patient.
          - END
        - **> 1 yr ago**
          - Congratulate patient.
          - END
    - **No**
      - Congratulate patient.
**While a patient is in the hospital**

Assure that every patient receives clear and respectful messages about the health benefits of quitting tobacco and has opportunities to quit.

Henry Ford Health System in Detroit, Michigan provides tobacco-users with a 10-minute DVD. "You can Quit and We can Help!" explains nicotine addiction and the quitting process, introducing the health system’s six-month telephone treatment program. Patients can initiate the quit process while in the hospital.

Clinicians at Kaiser Permanente of Northern California wear buttons saying, "Go smoke-free. Ask me about our free programs to help you quit."

**When you discharge a patient**

When a patient leaves the hospital, discharge him or her with continued support for quitting tobacco. Patients who receive at least one month of professional support after leaving the hospital nearly double their odds of remaining abstinent from tobacco.xxxv

Leverage each quit attempt by systematically including support in your discharge materials. Send the patient’s discharge summary to his or her primary care provider and, if feasible, follow up with the patient to see how the quitting effort is going and to encourage continued abstinence.

> See Appendix O: Discharge-Planning Form Template

In addition to following up with a patient’s physician, consider other ways to support a patient in quitting tobacco:

- Enroll the patient in your tobacco-dependence treatment program.
- Connect with another tobacco-treatment program in your community.
- Send home a quit pack with pharmacotherapy and information about community support.
- Promote the tobacco quit line, which can be reached by calling 1-800-QUIT NOW.
- Let patients know about Nicotine Anonymous, which offers 12-Step groups, similar and compatible with Alcoholics Anonymous. [http://www.nicotine-anonymous.org/](http://www.nicotine-anonymous.org/)
- Talk with family members about why and how to support a patient’s decision to become tobacco-free and suggest they join the patient in quitting.

**In your billing system**

Reimbursement for tobacco-dependence treatment, though inconsistent from plan to plan and state to state, is improving. Insurance payments are generally low, but public or private insurers may cover at least some aspects of treatment.

In a hospital, tobacco-use is generally a secondary diagnosis billed through medical, rather than behavioral health. Medicare provides coverage for both counseling and prescription medications. Most state Medicaid programs cover either counseling or medications, with a few states covering both. Private insurers vary. With the community’s growing interest in prevention, insurers for both physical and behavioral health increasingly offer some services to help tobacco-users quit.

Hospitals can elevate attention to the issue of tobacco-dependence by consistently offering and billing for tobacco-treatment. Include tobacco-use on the discharge summary using the ICD-9 code 305.1 for tobacco-use disorder or V158.2 for personal history of tobacco-use.
Medicare covers prescription cessation medications and face-to-face counseling, but not groups. Coverage is available only to those with a “disease or adverse health effect caused or complicated by tobacco-use” or those “treated with a therapeutic agent whose metabolism or dosing is affected by the use of tobacco.” Tobacco-dependence treatment must be provided by a Medicare-certified physician, physician assistant, nurse practitioner, clinical nurse specialist, qualified psychologist, certified nurse midwife or clinical social worker.

Twice a year, Medicare will cover a series of four intermediate or intensive counseling sessions on an outpatient basis. If you provide such counseling, use the CPT code that correlates with the length of the counseling sessions:

- **99406** Smoking and tobacco-use cessation counseling visit; intermediate, three to 10 minutes
- **99407** Smoking and tobacco-use cessation counseling visit; intensive, greater than 10 minutes

A single counseling session of less than three minutes is considered to be part of a standard evaluation and does not qualify for separate Medicare reimbursement.

A physician or other Medicare certified provider who consults during an inpatient hospital stay can bill for tobacco-cessation counseling using CPT codes **99406** for a session lasting three to 10 minutes or **99407** for a session lasting thirty minutes or more, provided the consultation meets Medicare standards:

1. The physician’s advice is requested by another physician.
2. The need for the consultation is documented in the patient’s medical record.
3. The consultant provides a written report to the referring physician.

Medicaid coverage for tobacco-treatment varies. At least 43 states cover some tobacco-dependence treatment (i.e., counseling or medication) with a handful covering the full menu of evidence-based options, according to new research, which is expected to be published in the Center for Disease Control & Prevention’s *Morbidity and Mortality Weekly Report*.

Some private health plans also cover tobacco-dependence counseling or medications. Others explicitly exclude tobacco-related addiction from coverage. Your billing department will need to inquire directly to private plans to see whether tobacco-treatment services are covered. Reimbursement may be more readily available if the tobacco-treatment is associated with another medical problem.

As both health care providers and employers, find ways to demand, use and bill for tobacco treatment services.

Public and private health insurers respond to market demand. As both health care providers and employers, find ways to demand, use and bill for tobacco-treatment services. Insurance coverage for tobacco-cession counseling and medications is listed as a best-practice in the Public Health Service Guideline.

3. **Train clinicians in how to treat patients who use tobacco.**

Smoking is a chronic, relapsing condition—an addiction that can be difficult to break.

Thus, it is useful to think of tobacco-dependence treatment as a process rather than an event. Determine how you can best leverage your role in this process.

Physician advice doubles the rate of quitting success. However, the gold standard of care supports advice with assistance through a process known as the **5As**:

- **ASK** patients about tobacco-use
- **ADVISE** all patients who smoke to quit
- **ASSESS** a patient’s willingness to quit
- **ASSIST** those who are ready to quit with medications and counseling
- **ARRANGE** for follow-up as part of your treatment
Some health care providers find it simpler to **ASK, ADVISE and REFER** tobacco-users to an internal system, a community resource, or a tobacco quit line that can assist them.\textsuperscript{xxvii} Train clinicians in your rubric of choice, keeping them apprised of opportunities to learn about tobacco. You can find a variety of on-site, on-line or self-study trainings for clinicians of all sorts. In addition to formal trainings, consider ways to share information in regular meetings, in-services and through Grand Rounds.

Regardless of your protocol, find practical training that staff can use immediately to integrate tobacco-treatment into every department of your health system. Consider assigning bedside treatment counseling to a nurse, respiratory therapist or health educator, who works closely with a pharmacist, the physician champion and other members of the treatment team. Provide clinicians with the trainings they need.

**Within your broad effort, tailor messages for specific audiences:**

The American Society for Anesthesiologists website includes resources anesthesiologists, surgeons, perioperative nurses and other surgical providers can use to help patients quit smoking. [http://www.asahq.org/patientEducation/smoking-cessationProvider.htm](http://www.asahq.org/patientEducation/smoking-cessationProvider.htm)

More extensive educational materials are available from Rx for Change [http://rxforchange.ucsf.edu/](http://rxforchange.ucsf.edu/). Web-based trainings are available for psychiatry professionals, cancer care providers, surgical care providers, and general hospital staff.

Those who work with pregnant women know how smoking is a health risk to both mother and baby. Research shows that about 45 percent of all pregnant smokers will quit during pregnancy.\textsuperscript{xxviii} A tool for pregnant smokers is Great Start, a national tobacco quit line operated by the American Cancer Society aimed at helping pregnant smokers quit, **1-866-66 START**.

Unfortunately, about half of the mothers who quit smoking, resume their addiction within six months after the baby is born. This suggests the need for linking the work of obstetricians and pediatricians. Consider, also, engaging other household members in quitting tobacco to prevent relapse after the baby is born.\textsuperscript{xxviii}

Hospital emergency departments are ripe with teachable moments. More than 110 million patients visit emergency departments each year.\textsuperscript{xxx} These patients generally smoke at a rate of up to 40 percent, nearly twice the rate of the general population.\textsuperscript{x} Consider including a brief tobacco-dependence intervention as part of your protocol. Also, patients tend to wait 30 minutes or more for emergency care.\textsuperscript{xi} Strategically place flyers and posters about the tobacco quit line and other quitting resources in the waiting area.

Finally, don’t shy away from providing tobacco-treatment to psychiatric and substance abuse patients. They use tobacco exponentially more than the national average, by and large want to quit tobacco and are more likely to die from tobacco-use than from issues stemming from their psychiatric diagnoses.\textsuperscript{xii} During the quitting process, the dosage of tobacco-cessation or other medications may need to be moderated because the tars in tobacco smoke change the metabolism of many antipsychotics, antidepressants and anxiolytic medications. For more information about working with psychiatric and substance abuse patients, see [http://smokingcessationleadership.ucsf.edu/MentalHealth.html](http://smokingcessationleadership.ucsf.edu/MentalHealth.html) and [http://www.tcln.org/bea/resources.html](http://www.tcln.org/bea/resources.html)

> **See Appendix P: Tobacco-Treatment Trainings**
4. Evaluate your tobacco-treatment process and its impact, adjusting your program to optimize effectiveness.

Measure both processes and outcomes, making changes as you fine-tune your tobacco-cessation efforts. Assess your starting place with baseline measures so you can gauge your progress. Here are some possible measures:

- CMS core measures
- Percentage of patients asked about tobacco
- Percentage of patients advised to quit
- Percentage of patients who try to quit while in the hospital
- Use of pharmacotherapy to quit
- Use of counseling to quit
- Impact of hospital protocol on quitting
- Quit rate
- Tobacco-use reduction
- Patient satisfaction

You can evaluate your measures by age, gender, ethnicity and diagnosis, adjusting processes to improve outcomes. If you don’t have an evaluator available to analyze your program, consider these options:

- An evaluation team from your local, state, or county health department.
- A contractor who can help in development and ongoing reporting
- A graduate student from a local university
WORKING WITH VISITORS
Working With Visitors

You have neither a contract with them nor formal authority over their behavior, yet visitors can be your partners in sustaining a smoke-free environment. A visitor who understands and follows your tobacco-use policy can improve a patient’s well being during the hospital stay—and maybe even support a quit attempt afterwards. Consider taking these four steps to help build an effective partnership with every visitor who uses tobacco:

1. Inform the visitor about your tobacco-use policy.
2. Respectfully enforce the policy.
3. Help visitors manage nicotine cravings and learn about quitting options.
4. Provide tools to help staff enforce the policy.

1. Inform the visitor about your tobacco-use policy.

Every visitor that comes to your hospital forms an impression before walking through the door. Consider both the subliminal and direct messages you deliver about tobacco-use.

For starters, remove smoking shelters and ashtrays. Even the most addicted visitor is not likely to question the absence of these vestiges of smoking in a health care facility. It’s also a good idea, particularly during the initial stages of your tobacco-free initiative, to sweep up cigarette butts as you find them.

But you can’t rely on subtleties to communicate your policy. Provide visible, concise signs that tell visitors they can’t smoke. Hospitals report that clearly communicated smoke-free policies are largely self-enforcing. Post a ‘no smoking’ sign at every entryway, exit, parking lot and other area where visitors are likely to smoke. Develop signs in languages that can reach visitors. Almost everyone understands the universal ‘No Smoking’ symbol.

Experience shows, however, that employees and visitors can become “sign blind” over time. Change your signs so people will notice them.

Give careful thought to the wording, placement and size of your signs. Your investment in effective signage will ease the enforcement of your tobacco-use policy.

> See Becoming and Remaining Tobacco-Free, Post Effective Signs, page 7

2. Respectfully enforce the policy.

A visitor, unfamiliar with your rules and stressed about a loved one’s health, may fail to notice your humongous banner or the no-smoking symbol at your entryway, but likely has been to many places that ban smoking.

In any case, attaining visitor compliance is usually easy. Most smokers will immediately put out a cigarette when informed of the no-tobacco policy. Hospitals may encourage and expect all staff to inform visitors of the policy. Employees may appreciate a card or brochure that explains the hospital’s rationale for its tobacco-free policy and provides information about quitting. Create such tools in multiple languages.

If policy information does not deter smoking, have employees take a non-confrontational approach, asking the visitor to please pick up the cigarette butt. Most hospitals also have a procedure in place in the rare case that a tobacco-use violation poses a potential safety threat to the property or to another person. Security staff generally intervenes in those circumstances. These security personnel need to be trained to enforce the policy with a helpful, positive approach. This could include providing a visitor with the cards you developed, a map that shows where the visitor can smoke or, if necessary, escorting the visitor from the hospital grounds.

> See examples of visitor cards in Becoming & Remaining Tobacco-Free, Enforce Your Policy, Visitors, page 8.
3. Help visitors manage nicotine cravings and learn about quitting options.

One approach with visitors is to provide them with short-term symptom relief so they can spend more time visiting a hospitalized loved one. At the same time, don’t miss a teachable moment. Many hospitals include information about quitting tobacco in materials about the hospital’s tobacco-use policy.

Nicotine replacement therapy (NRT) can be a tool for maintaining a tobacco-free policy. A visitor who uses NRT can most likely sustain a longer, more comfortable hospital visit than one who needs to leave the hospital to smoke. Find out whether over-the-counter NRT is available through the hospital gift shop or pharmacy or at a store in your neighborhood. Nicotine replacement lozenges or gum can provide more immediate relief than the longer-term patches.

Employees at Oregon Health & Science University (OHSU) give visitors who smoke a card that shows them where to find free NRT, while providing the tobacco quit line telephone number, 1-800 QUIT NOW. Trained staff distributes relief packets with two four-milligram nicotine replacement lozenges, repackaged for the hospital by the Louis, Ohio-based Shamrock Medical Solutions. The lozenge packets, approved by OHSU’s legal counsel, include hospital disclaimers and FDA-required information about the medication.

A visitor may not be ready to quit, but having a loved one in the hospital can catalyze the quitting process. Include in your visitor communications information about the Tobacco Quit Line and other community resources so the visitor can find help when he or she is ready to quit.

Encouraging visitors to quit tobacco may offer health dividends for patients. Caregivers need to know that those with heart disease are at especially high risk of suffering adverse effects from breathing secondhand smoke and should avoid even brief exposures. Women who quit smoking during pregnancy are much more likely to resume smoking if their husbands, mothers or mothers-in-law smoke. Your tobacco-use intervention with a visitor could later protect a patient from second-hand smoke or support the patient in breaking the addiction to nicotine.

4. Provide tools to help staff enforce the policy.

Staff likely will appreciate cards or brochures they can give to a visitor or co-worker who is violating the policy. These usually include a message about the policy with information about how to quit, including the quit line phone number.

Asante Health System, in Southern Oregon, provides staff with a card, explaining how to respectfully ask visitors to comply with the tobacco-free policy.
WORKING IN THE
COMMUNITY
As you step up to the challenge of forging tobacco-free policies and protocols, work with partners to avert problems, augment teachable moments, and increase your impact. Here’s a list of likely partners that can help you with your efforts:

1. Neighbors, including businesses
2. Physicians’ offices and health plans
3. State tobacco quit lines
4. Colleagues, competitors and other interested parties
5. Local and state health departments and tobacco-free coalitions
6. Media

1. Neighbors, including businesses

Anticipate potential problems with neighbors. Cigarette butts, litter, and loitering have fueled the ire of hospital neighbors from Florida to Washington. Successful hospitals discuss these issues with staff and reach out to neighborhood residents and businesses before there is a problem.

Take the same basic steps in working with the neighbors as you have with employees: Explain your rationale. Provide plenty of notice. And offer a personal contact should neighbors have concerns. You may even want to invite neighbors to the kick-off celebration or award prizes purchased from neighboring businesses.

Even as you maintain your focus on health, depending upon your neighborhood, you may have to make concessions: One hospital purchased receptacles that were placed in the new "unofficial" smoking areas. Revisit such concessions and consider other options as part of your ongoing evaluation.

> See Appendix Q: Letter to Neighbor Template

2. Physicians’ offices and health plans

A physician who refers a patient to your hospital can be a key partner both before and after a hospital stay. Before a scheduled procedure, the referring physician can tell a prospective patient of your hospital’s tobacco-use policy, opening up the conversation about why, both in the short-term and the long-term, now is a good time for the patient to quit tobacco. The clinician can then assist the patient in quitting or refer him or her to the tobacco quit line, 1-800 QUIT NOW, or other effective services.

After the procedure, the physician report you send will remind the medical practice to follow up with the patient about the enforced abstinence during the hospital stay and support the patient to remain tobacco-free or quit.

Research shows that the patient is much more likely to remain tobacco-free with support and assistance. Encourage health plans in your community to provide tobacco-dependence treatment as part of standard benefits. This will open a clinical pathway for both you and your partners to provide one of the most cost-effective clinical treatments available.

> See Appendix R: Letter to Physicians Template
> See Appendix S: Letter to Patients Template
3. State tobacco quit lines

Hospitals and health care systems may not have the time or training to treat patients for tobacco-dependence, but they can begin the process. Hospital professionals can ask every patient about tobacco-use and advise all users to quit. They then can refer those who are ready to quit to a state tobacco quit line.

Every state has one, and at least 30 quit lines have devised a fax referral system to work with hospitals and other health care providers. Here’s how it works: A clinician who finds a patient is ready to quit tobacco, encourages the patient to get treatment and support. Patients ready to quit are asked to sign a referral form, which is faxed to the state tobacco quit line. This can trigger a call from a tobacco-treatment coach to the patient within a day or so. The clinician needs to explain how the quit line operates and remind the patient at discharge so he or she is not surprised when the quit coach calls.

Any state tobacco quit line can be accessed through the national portal, 1-800 QUIT NOW. Services vary, depending upon state budgets. Find out what your quit line offers by visiting the North American Quitline Consortium, http://www.naquitline.org/ or contacting your state health department.

See if your quit line can provide you with materials and training to launch a fax referral system. The quit line also may be able to provide you with materials you can share with patients who are not yet ready to quit. Hospitals that choose to refer patients directly to the quit line, can order cards with the national telephone number, 1-800 QUIT NOW, from http://smokingcessationleadership.ucsf.edu/1800QuitNowOrder.html

Walla Walla General Hospital and several other health care providers worked with the Washington State Tobacco Quit Line to improve tobacco-dependence treatment systems. The rural Walla Walla hospital’s electronic medical records identified tobacco-users, triggering treatment orders to respiratory therapists. The respiratory therapists, however, frequently had neither the time nor the training to provide comprehensive tobacco-dependence treatment. As a result of this analysis, the quit line, operated by Free & Clear, trained respiratory therapists to ASK patients if they use tobacco, ADVISE every tobacco-user to quit, then REFER tobacco-users to the quit line for assistance. Now, every new respiratory therapist is trained in the ASK-ADVISE-REFER protocol through an online module on HealthStream. In addition, all respiratory therapists must stay up-to-date on tobacco-dependence treatment through an annual on-line review module with a pre- and post-test. This pilot was funded by the Washington Tobacco Prevention & Control Program.

In another quit line partnership, the Ohio Hospital Association worked with the Ohio Tobacco Quit Line to train 243 hospital providers on tobacco addiction, treatment, and the impact of tobacco-use on chronic disease. After the training, 48 hospitals partnered with Ohio Quit Line, operated by the National Jewish Medical & Research Center, to became “Ohio Quit Sites.” These hospitals received a $1,000 incentive for integrating tobacco control into protocols, training all respiratory and cardiopulmonary staff, referring calls to the tobacco quit line and tracking such referrals.

> See Appendix T: Sample Fax Referral Form
4. Colleagues, competitors and other interested parties

Health care organizations, from North Carolina’s tobacco country, through Kansas, Ohio and Michigan are setting aside turf issues to jointly address the single-most preventable cause of premature death and disability: smoking. Psychiatric facilities, prisons, nursing homes, and chemical dependency treatment programs increasingly are joining the ranks of the tobacco-free as well.

As your facility becomes tobacco-free and helps tobacco-users quit, you provide a model for businesses, including competitors and colleagues. Forge partnerships that enhance training and expand tobacco-dependence treatment options for all members of the community.

The University of Michigan Health System’s tobacco-free initiative launched a partnership effort in 2000 that has snowballed throughout the state and provided the hospital with a new treatment specialty. After banning on-campus tobacco-use, the health system created a CD tool and offered technical assistance to ease tobacco-free efforts by other facilities. This work was funded by a grant from the Michigan Department of Community Health. Initially, at least five hospitals became tobacco-free each year. After 2006, when the Michigan Hospital Association joined the partnership, progress accelerated quickly. Between 2000 and 2008, the number of smoke-free hospitals in Michigan grew from four to nearly 160. The University of Michigan Health System’s tobacco-cessation treatment program has directly helped more than 50,000 people with their quitting journey. The statewide partnership has enabled countless others to receive help as well.

To order the University of Michigan Health System’s free Smoke-free Environment CD, which contains detailed information and tools, go to http://www.med.umich.edu/mfit/tobacco/requestSFE.htm

5. Local and state health departments and tobacco-free coalitions

Partners in local and state health departments and coalitions can help your tobacco-free initiative, particularly in engaging the community. Invite health department and community representatives to join your team. Even if they can’t provide financial support like the Michigan project, they likely will have materials you can use to promote the tobacco quit line and provide information about tobacco-use. Consider ways public health officials and coalitions can help measure community impact, reach out to the media, promote community events, convene partners and provide other assistance.

The Oregon Tobacco Prevention & Education Program assisted the state’s hospitals by offering a daylong Rx for Change train-the-trainer course in tobacco-dependence treatment. The training was available free to one professional from every hospital in the state, provided the participant train additional staff at the home institution within a year. Students received teaching materials, food, transportation and lodging. Continuing education credits were available to nurses, pharmacists and respiratory therapists. A grant from the Smoking Cessation Leadership Center supported the trainers. The Oregon Association of Hospitals & Health Systems helped publicize the event.

6. Media

As you plan and implement your tobacco-free policy, the media can help you promote a positive image, educate the community about tobacco-use and model leadership among health care providers and other businesses.

Incorporate a proactive media strategy in your plans. Begin with a simple, consistent message and use it in interviews and articles, reframing the message and selecting apt messengers as you communicate with different audiences. For news conferences or interviews, showcasing both an administrative and clinical champion can optimize your reach and credibility.
Include in your releases information about why you are implementing the policy, when it will be implemented and how to learn more. Here are some standard messages you can adapt for the media:

"We are developing this policy to provide a healthy and safe environment for employees, patients and visitors and to promote positive health behaviors."

"Continued tobacco-use can cause problems for hospitalized patients: Smoking retards wound healing, increases infection rates in surgeries and is the most common cause of poor birth outcomes."

"We are not telling anyone, ‘you must quit smoking.’ We are saying, ‘Don’t use tobacco at our hospital.’ While you are a patient or visitor at this hospital, we can suggest ways to ease nicotine withdrawal symptoms. And if you are ready to quit, we have trained professionals and community partners who can help you."

Your proactive approach with the media will help frame tobacco issues in the community. Consider these and other media opportunities as ways to inform the community of your efforts and engage new partners:

- Announcement of tobacco-free policy (one month ahead)
- Tobacco-free policy launch and celebration
- Opinion piece or editorial about your hospital’s decision to ban tobacco
- Expert interviews on new community policies or research

Most hospitals will encounter some opposition to a new tobacco-free policy, generally from those touting the "right to smoke." As a health care institution, continue to emphasize the health issues. Be clear that you welcome all patients to your hospital, emphasizing you simply are asking tobacco-users to abstain while on your properties.

> See Appendix U: News Release Template
> See Appendix V: Response to Opposition Template
APPENDIX A: JOINT COMMISSION ENVIRONMENT OF CARE STANDARDS

Master Revised Chapter

ENVIRONMENT OF CARE

Revised Revised Standard EC.02.01.03 – Standard Text

AHC  The [organization] prohibits smoking.

BHC  The [organization] prohibits smoking except in specific circumstances.

CAH  The [organization] prohibits smoking except in specific circumstances.

HAP  The [organization] prohibits smoking except in specific circumstances.

LAB  The [organization] prohibits smoking.

LT2  The [organization] prohibits smoking except in specific circumstances.

LTC  The [organization] prohibits smoking except in specific circumstances.

OBS  The [organization] prohibits smoking.

OME  The [organization] prohibits smoking except in specific circumstances.

Revised Standard EC.02.01.03, EP 1 – Revised EP Text

AHC ➤ Smoking is not permitted in the organization.

BHC ➤ The organization develops a written policy prohibiting smoking in buildings, except in specific circumstances for adult individuals served in 24-hour care settings. The organization defines specific circumstances that may result in exceptions to the policy for individuals served.

CAH ➤ The critical access hospital develops a written policy prohibiting smoking in all buildings. Exceptions for patients in specific circumstances are defined.

HAP ➤ The hospital develops a written policy prohibiting smoking in all buildings. Exceptions for patients in specific circumstances are defined.

LAB ➤ Smoking is not permitted in the laboratory and areas under the control of the laboratory.

LT2 ➤ The organization develops a written policy prohibiting smoking in all building(s) except for designated areas for residents in specific circumstances. The organization defines specific circumstances that may result in exceptions to the policy.

LTC ➤ The organization develops a written policy prohibiting smoking in all building(s) except for designated areas for residents in specific circumstances. The organization defines specific circumstances that may result in exceptions to the policy.

OBS ➤ Smoking is not permitted in the practice.

OME ➤ Smoking is not permitted in the organization’s buildings except for hospice patients in inpatient settings.
ENVIRONMENT OF CARE

Revised Standard EC.02.01.03, EP 3 – Revised EP Text

**BHC** ➤ If the organization decides that certain adult individuals served may smoke in 24-hour care buildings, the clinical staff develops written criteria identifying the circumstances under which those individuals may smoke.

**LT2** ➤ If the organization decides that certain residents may smoke, the leaders develop written criteria identifying the specific circumstances under which they may smoke. The criteria also describe where and when they may smoke and whether supervision is required.

**LTC** ➤ If the organization decides that certain residents may smoke, the leaders develop written criteria identifying the specific circumstances under which they may smoke. The criteria also describe where and when they may smoke and whether supervision is required.

**OME** ➤ The organization develops criteria identifying the circumstances under which a patient may smoke.

Revised Standard EC.02.01.03, EP 4 – Revised EP Text

**BHC** ➤ If the organization decides that an adult individual served may smoke in specific 24-hour care buildings, it designates smoking areas that are physically separate from care, treatment, or service areas. (See also EC.02.03.01, EP 2; PC.02.03.01, EP 10)

*Note:* This does not require that a designated smoking area be a specific distance from care, treatment, or service areas. A physically separate, well ventilated room that is exhausted to the outside is acceptable.

**CAH** ➤ If the critical access hospital decides that patients may smoke in specific circumstances, it designates smoking areas that are physically separate from care, treatment, and service areas. (See also EC.02.03.01, EP 2)

**HAP** ➤ If the hospital decides that patients may smoke in specific circumstances, it designates smoking areas that are physically separate from care, treatment, and service areas. (See also EC.02.03.01, EP 2)

**LT2** ➤ If the organization decides that certain residents may smoke, it designates smoking areas that are environmentally separate from care, treatment, and service areas.

*Note:* This does not require that a designated smoking area be a specific distance from care, treatment, and service areas. A physically separate, well ventilated room that is exhausted to the outside is acceptable.

**LTC** ➤ If the organization decides that certain residents may smoke, it designates smoking areas that are environmentally separate from care, treatment, and service areas. (See also EC.02.03.01, EP 2)

*Note:* This does not require that a designated smoking area be a specific distance from care, treatment, and service areas. A physically separate, well ventilated room that is exhausted to the outside is acceptable.

Revised Standard EC.02.01.03, EP 6 – Revised EP Text

**BHC** ➤ The organization takes action to maintain compliance with its smoking policy. Old EC.1.30 EP7

**HAP** ➤ The hospital takes action to maintain compliance with its smoking policy.

**LT2** ➤ The organization takes action to maintain compliance with its smoking policy.

**LTC** ➤ The organization takes action to maintain compliance with its smoking policy.
APPENDIX B: UNDERSTAND YOUR COMMUNITY AND FACILITY

Your community

• What are the workplace smoking laws in your community? Americans for Non-smokers Rights maintains a database on smoke-free initiatives: [http://www.no-smoke.org/](http://www.no-smoke.org/)

• What is the tobacco-use prevalence in your community? Statewide data are available at [http://apps.nccd.cdc.gov/statesystem/](http://apps.nccd.cdc.gov/statesystem/) Contact your county health department for county-wide data.

• How do other health care facilities in your community address tobacco issues? What about other businesses?

• How does the Tobacco Quit Line help smokers in your community? [Find out by calling 1-800-QUIT NOW or searching www.1800QuitNow.org](http://www.1800QuitNow.org)

Your workplace

• What is your workplace smoking policy? What is the history of its development? Who supported it? Who opposed it? Why?

• Do other facilities share your health system? Do you lease space to others? How can you work with these organizations in changing your tobacco-use policy?

• Are tobacco-use policies or treatments addressed in any labor agreements?

• How many employees smoke or chew tobacco? Does your human resources department collect this information? What benefits or services you offer to help them quit tobacco?

• How much does employee tobacco use cost your organization each year? How much will this program cost?

• What tobacco-dependence treatments do your health plans or wellness programs offer? Do employees know about them? Do they use them? What are the barriers (co-payments, lifetime limits, other restrictions)? What incentives do you offer?

• How do employees feel about your tobacco-use policies? How do they feel about the benefits or services you offer to help them quit tobacco?

Your treatment center

• Do you ask patients admitted to your facility if they smoke? How do you record this information? Is smoking status a part of a patient’s medical record?

• What protocols does your facility have for helping smokers quit? Do you provide standing orders for tobacco-cessation counseling and medications for patients who use tobacco?

• What tobacco-cessation medications are included in your formulary?

• Do you offer a community tobacco-cessation program? Do you have a process to refer patients to community tobacco-cessation services or the tobacco quit line? 1-800-QUIT NOW

• How do you perform on the core quality measures that gauge tobacco-cessation assistance for patients with congestive heart failure, pneumonia and acute myocardial infarction? [http://www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov)

Other key facts

• How does tobacco-use affect patient health outcomes (i.e. risk of liability)?

• How much will a tobacco-free initiative cost?
To all Physicians and Staff,

All of us at Kaiser Permanente know that we are committed to improving the health of our members and staff. We also know that smoking is a health hazard. Therefore, to promote good health, and create a healthy environment for members and staff, our Kaiser Permanente campus will become smoke free on [DATE].

This new policy, known as Smoke-Free Campus, means the existing designated smoking areas will remain in place until [DATE]. After that, there will be no areas where smoking is permitted.

While physicians and staff are certainly free to continue smoking off-campus during breaks and lunch periods, those who smoke may decide this is a good time to quit. We recognize that giving up smoking is difficult – and we are committed to helping any employee or physician who needs support in their efforts to quit.

To assist those who want to quit smoking, Kaiser Permanente offers free smoking-cessation courses to all Kaiser members. The classes may include a one-day workshop, a six-session workshop and an eight-session workshop. Attendance in the classes provides members and staff with the opportunity to obtain smoking-cessation aids, like the nicotine patch or bupropion SR, for a standard co-payment. The Health Education Department has more information on these classes and other quit-smoking resources. The California Smoker’s Helpline also offers telephone counseling free of charge at 1-800-NO-BUTTS.

Over the course of the next several months, look for more information and details about our Smoke-Free Campus in employee and member publications, as well as posters, flyers and other positive activities. If you have any questions about the Smoke-Free Campus policy, please contact ____________, Human Resources, at ____________.

Signatures of:

Physician-in-Chief, Service Area Manager,

Medical Group Administrator Labor Management Representative
TOBACCO-FREE POLICY

Effective DATE, ORGANIZATION will maintain a 100% tobacco-free environment. This policy applies to employees, patients, residents, visitors, vendors and anyone who enters ORGANIZATION-owned property or off-campus employee worksites.

PURPOSE

As a health care provider, ORGANIZATION is committed to providing a healthy and safe environment for employees, patients, staff, and visitors and to promoting positive, healthy behaviors.

With this policy, we hope to:

• Eliminate secondhand smoke so everyone on our campuses can breathe clean air
• Demonstrate our commitment to improve the health of patients, employees and the community
• Increase hospital involvement in treating nicotine addiction
• Set an example that other organizations and businesses can follow

PRODUCTS COVERED BY THE POLICY

Tobacco products include, but are not limited to:

• Cigarettes
• Cigars
• Chewing tobacco
• Pipe smoking

PHYSICAL BOUNDARIES OF THE POLICY

Please refer to attached map for the boundaries of ORGANIZATION’s campus. This policy shall apply to all indoor and outdoor spaces owned or leased by ORGANIZATION, including:

• Parking lots and driveways that are used by ORGANIZATION.
• ORGANIZATION vehicles
• Vehicles on property that is owned, leased or used by ORGANIZATION
• Adjoining sidewalks to ORGANIZATION owned or leased property
1. Employee Responsibilities

For purposes of this policy only, "employee“ refers to employees, contract employees, volunteers and students.

All ORGANIZATION employees must observe and promote compliance with the tobacco-free policy. ORGANIZATION employees are encouraged and expected to be good neighbors and refrain from using tobacco products on the property of nearby businesses and residences.

Employees are not allowed to leave the workplace while "on the clock.” Leaving campus during work time is subject to disciplinary action.

Hourly employees, who leave ORGANIZATION property for non-work matters, must clock-out upon leaving and clock-in upon returning. Unauthorized breaks are subject to corrective action.

Employees carpooling to attend training classes or work-related functions paid for by ORGANIZATION may not smoke unless all parties agree that smoking is acceptable. This applies for travel where mileage is reimbursed by ORGANIZATION.

All employees are responsible for ensuring compliance by fellow employees. Employees observing a co-worker violating the policy are requested to courteously remind the employee of the policy and ask that the tobacco product be extinguished.

Employees are encouraged to make a confidential, "good faith” report to a supervisor, manager or human resources when they observe an employee violating this policy.

If the tobacco violation involves a potential threat to health or safety, such as smoking near combustible supplies, flammable liquids, gases or oxygen, management and security staff must be contacted. If the tobacco materials are not extinguished or dispensed of or if the patient/resident repeats the activity, security will remove the tobacco materials from the room until dismissal. You may dial "0" to request security for assistance.

As outlined in the Dress Code Policy, employees are asked to pay special attention to personal hygiene. This includes not having a strong odor of smoke when working.

Employees who violate this policy are subject to disciplinary action, up to and including termination. These consequences are based on a 12-month rolling calendar:

<table>
<thead>
<tr>
<th>Violation Level</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st Violation</td>
<td>Verbal Coaching</td>
</tr>
<tr>
<td>2nd Violation</td>
<td>Written Warning</td>
</tr>
<tr>
<td>3rd Violation</td>
<td>Suspension</td>
</tr>
<tr>
<td>4th Violation</td>
<td>Termination</td>
</tr>
</tbody>
</table>

Employees who smoke are encouraged to avail themselves of the smoking-cessation programs offered.
2. Visitors

Informational cards are available for staff to give visitors who are observed smoking on ORGANIZATION property. Staff can use the card to inform the visitor of ORGANIZATION’s policy and options to relieve withdrawal symptoms or quit tobacco.

Staff is encouraged not to confront visitors, but rather to respectfully ask those who refuse to comply to please pick up their cigarette butt. Should a tobacco-use violation pose a potential safety threat to the property or to another person, employees are asked to contact security.

3. Patients and Residents

At the time of admission or registration, patients and residents will be given information regarding the tobacco-free policy. Patients will be informed that leaving the campus while admitted will not be allowed. Leaving campus while admitted is classified as leaving “against medical authorization.”

Patients and residents will not be permitted to use tobacco or smoke under any circumstances. If an employee observes a patient/resident using tobacco products the employee needs to remind the tobacco-user of the policy and provide an informational card. Patients’ and residents’ tobacco items will be placed in a secure location until dismissal.

Additional remedies are the responsibility of the management team responsible for the safety and well-being of the patient/resident. Tobacco-cessation materials will be given to the patient/resident and their physician may be contacted to request smoking-cessation products.

If the use of tobacco products continues after the first verbal reminder, management and security may be contacted for additional assistance and to reinforce the policy.

4. Security

Security is available to assist with a patient or resident who is not compliant with ORGANIZATION’s tobacco-free policy. If tobacco materials are not extinguished or if the patient/resident repeats the activity, security will remove the materials from the room to be stored in a safe place until dismissal.

5. Contractors and Vendors

All contractors and vendors will be informed of ORGANIZATION’s tobacco-free policy as part of the contractual agreement. Vendors who sign-in at shipping and receiving to deliver items will be reminded of the policy. If you observe a contractor or vendor violating this policy you may inform them of ORGANIZATION’s policy or contact security.

Senior leadership is responsible for monitoring compliance with this policy.
# APPENDIX E: SAMPLE TIMELINE

(Adapted from Kaiser Permanente, Northern California)

<table>
<thead>
<tr>
<th>IMPLEMENT</th>
<th>DESCRIPTION</th>
<th>TIMELINE</th>
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</thead>
<tbody>
<tr>
<td>1. Gain top-level commitment</td>
<td>1. Written memo to middle management signed by organization CEO or physician-in-chief and labor-management partnership representative announcing new policy and target date 2. Create Steering Advisory Committee to oversee the project</td>
<td>1 year prior to target</td>
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<tr>
<td>2. Create local implementation task force at each site</td>
<td>3. Recommended members: MD champion and assistant (co-chairs), coordinator, representatives from: primary care, health education, addiction medicine, personnel, security, facilities, environmental services, pharmacy, public affairs, key employee groups (union representatives, smokers) 4. Revise smoking policy and procedure 5. Conduct employee focus groups 6. Develop implementation plan and timeline</td>
<td>9 – 10 months prior to target</td>
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<tr>
<td>3. Facilities Planning</td>
<td>7. Signage location and placement 8. Eliminate ash urns</td>
<td>Plans completed 8 months prior  Signage placed 6 months prior</td>
</tr>
<tr>
<td>4. Communication to physicians and employees</td>
<td>9. Send written memo from middle management announcing the new policy 10. Communicate details of phasing-out of designated areas, enforcement, stop-smoking resources and timeline</td>
<td>7 months prior  7 months prior</td>
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<tr>
<td>IMPLEMENTATION</td>
<td>DESCRIPTION</td>
<td>TIMELINE</td>
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<td>5. Positive promotion to members</td>
<td>11. Parking lot banners, lobby banners and posters</td>
<td>6 months prior to target “kick-off” date</td>
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<td>12. Employee brochure</td>
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<td>13. Appointment card announcement</td>
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<td>14. Newsletter articles</td>
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<td>15. Other internal publications</td>
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<td></td>
<td>16. External publications/new media</td>
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<td>17. Train security, etc., to communicate policy</td>
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<td></td>
<td>18. Begin enforcement during phase-out of designated areas/offer cessation resources (free, if possible)</td>
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<td></td>
<td>20. Enforcement with employees/members (per policy)</td>
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<td></td>
<td>21. Maintain grounds</td>
<td>6 months after</td>
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<td></td>
<td>22. Prevent relapse with communication</td>
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<td></td>
<td>23. Evaluate effectiveness and modify as needed</td>
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</tbody>
</table>
On DATE, ORGANIZATION will become completely tobacco-free, both indoors and outdoors—for all properties. This includes our parking areas and the vehicles parked there. This ban covers all tobacco products, including chewing tobacco, and extends to everyone who smokes—patients, visitors, employees, students and vendors. The following should answer common questions about our Tobacco/Smoke-Free Campus policy:

Why are we doing this?
We believe ORGANIZATION leads the community and nation in health promotion and staff wellness. As an institution dedicated to improving the health of our patients and community, we must “walk the talk” and show our commitment and leadership in tangible ways. Smoke-free property is the standard for many health care institutions and companies. Organizations that are already 100 percent smoke-free include Alaska Airlines, Dunkin’ Donuts, Westin Hotels and hundreds of businesses, hospitals and health care organizations across the region and nation.

Don’t we have a right to smoke?
There is no legal right to smoke. On the other hand, this hospital has a right to create a tobacco-free environment within our buildings and grounds. This initiative is consistent with our goals of supporting good health and wellness.

How will patients, visitors and others learn of the ban?
We will announce the ban through the media and post signs around our property. We will send information to physicians and other health care providers, asking that they tell patients about our no-tobacco policy. We will tell every patient admitted to this hospital about the policy. We ask that managers begin discussing this policy with employees as soon as possible so all of us can prepare for this change.

Doesn’t this policy punish smokers?
Our new policy isn’t intended to punish anyone. It is designed to provide all staff with a healthy and safe workplace and to treat patients in a healthy and safe environment. Our tobacco-cessation programs and related activities show our commitment and leadership in health promotion and disease prevention for our staff, patients and communities. We hope we provide the kinds of support that staff, patients and visitors need to take steps toward health.

What about other kinds of tobacco products, like chew or pipes?
The new policy will also ban use of other forms of tobacco, including chewing tobacco, cigars, pipes and tobacco alternatives, such as clove cigarettes. Nicotine replacement therapy products (patches, gum, lozenges) are allowed.

Does this new policy comply with union contracts?
ORGANIZATION’s union contracts allow us to implement general staff policies like this one. We have informed union leaders of our new policy and we will work with them as we implement this policy and other policies and changes.

How will the policy be enforced?
Our hope is that we can work together to enforce this policy through friendly interactions. All employees seen smoking or using tobacco on the premises after DATE will be asked to stop, reminded of the new policy and informed of tools that can ease symptoms while they are at work. If they are ready to quit, we can provide resources to help them. If you find staff who do not wish to comply with our policies, we ask that you talk with them or their supervisor to let them know you’re concerned about supporting a smoke-free campus. Repeat offenders are subject to disciplinary action.
We recognize that we also will deal with visitors who may be under stress and are unfamiliar with our policies. If you see visitors smoking on our grounds, kindly inform them of the policy and request that they stop. We will provide you sample scripts and information cards. If a visitor refuses to comply, walk away. Inform security if they pose a safety threat.

What about visitors or patients who must stay on our property for lengthy periods of time?

We want to deliver a clear message to all of our patients and visitors that, 'While you are here, you and those around you have every right to breathe clean air and every opportunity to make healthy choices.' This applies to our psychiatric, chemical-dependency treatment units and long-term care as well as our tertiary care.

Experience shows that psychiatric, chemical-dependency treatment centers and long-term care facilities can implement smoke-free policies without the upheaval skeptics predict. We will provide training to our staff on treating nicotine addiction along with other psychiatric or chemical-dependency issues.

(For information and sample policies for long-term care facilities, see http://www.tcsq.org/tobacco/smokepolicies.htm)

Will staff or visitors be able to smoke on public property adjoining our property, such as a public sidewalk?

Yes, but we ask that our employees respect our neighbors and their property.

If I have to walk farther to reach public property where I can smoke, will I get more break time?

No. That would be unfair to co-workers and hurts our ability to treat patients. Failure to return from break on time will be treated as a violation of our standards of employee conduct.

Can I smoke inside my car?

If your car is parked in the ORGANIZATION parking lot, you cannot smoke in it because the lot is part of our tobacco-free zone. Additionally, the use of tobacco products is not allowed in any ORGANIZATION-owned vehicles.

Won’t there be more litter around the campus because of cigarette butts?

All staff act as ORGANIZATION ambassadors during working hours at our campuses. As ambassadors and good neighbors, we expect that employees will treat surrounding public areas and private properties with respect. This means that staff is expected to avoid littering, including cigarette butts and other trash, on all properties adjoining our buildings.

Can an employee be disciplined for carrying cigarettes?

The tobacco-free policy is intended to cover the use of lighted cigarettes, cigars, pipes or other tobacco products on ORGANIZATION campuses. If you are carrying unlit cigarettes or other tobacco products in your purse or on your person going to and from a break, you will not be disciplined. You will be subject to progressive disciplinary action if you light up or smoke a lighted cigarette or other tobacco product or use chewing tobacco on ORGANIZATION property.

Can I use nicotine-replacement therapy products, like gum, lozenges, or patches, at work?

Yes. Some smokers may choose to use NRT products—particularly gum or lozenges—to manage their nicotine cravings during work hours. If you are still smoking or using tobacco, please be cautious if you choose to use nicotine-replacement therapy at work. Taking too much nicotine by using nicotine-replacement therapy while you still use tobacco can cause unpleasant side effects. If you want to use NRT at work, you may want to talk to your physician about appropriate dosing and use.
How do I learn more about what will happen at my work site, or otherwise get more information on our Tobacco/Smoke-Free Campus?

You can get more information from your manager or from the Tobacco/Smoke-Free Campus Web Page at _______ You can also ask questions or offer suggestions by e-mailing or calling ________.

Who enforces the no-smoking requirement for contract workers who are outside employees?

We have notified our contracted vendors of the Tobacco/Smoke-Free Campus policy and its DATE, effective date. All vendors and contracted employees are expected to comply with this policy.

I’m uncomfortable talking with members or visitors about smoking on campus. What am I supposed to do?

You may need to educate patients, employees and visitors about the new policy when you see someone smoking or using tobacco on campus. But managers and security staff have the primary responsibility for enforcement. This means they will talk with employees or visitors who do not wish to stop smoking or using tobacco after being educated about our policy. We anticipate that most employees, patients and visitors will comply with the policy once they know about it. We understand that conversations about personal behaviors, like smoking, can be uncomfortable. We hope you’ll help ORGANIZATION create a healthier environment by educating people about the new policy. Gently inform them of the policy. Something like: “Hi. I need to let you know that for the health of our patients, employees and visitors, ORGANIZATION does not allow tobacco-use on campus. Please put out your cigarette and dispose of it. Here’s a card that explains our policy and offers some other options.” If the member, visitor or staff member continues smoking, walk away. If you believe the smoker poses a safety threat, report the person to security right away.

How will ORGANIZATION help tobacco-users who want to quit?

• ORGANIZATION’s health plan and wellness program covers NOTE CESSATION HELP for employees.

• Refer tobacco-users to the national Tobacco Quit Line phone number 1-800-QUIT NOW and OTHER COMMUNITY RESOURCES.

• Ask visitors to see what kind of assistance their health insurance may offer.

I’m a smoker. How can I get help?

We know that quitting is a process that doesn’t happen the same way for everyone. Research shows that you will be most successful with a combination of support, coaching and medications.

1. Employees can DEFINE BENEFITS OR SERVICES.

2. Talk with your doctor.

3. Call the Tobacco Quit Line, 1-800 QUIT NOW. The Quit Line can offer you information and coaching EXPLAIN QUITLINE SERVICES.
## APPENDIX G: SAMPLE COMMUNICATIONS PLAN

(Adapted from Kaiser Permanente’s Santa Rosa Medical Center’s Smoke-Free Campus Communication Plan)

<table>
<thead>
<tr>
<th>TARGET AUDIENCE</th>
<th>WHAT TOOL</th>
<th>HOW TO DISSEMINATE</th>
<th>WHO RESPONSIBLE</th>
<th>TARGET DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employees</td>
<td>1. Presentation re: • Policy • Role-play on policy enforcement • Health education programs</td>
<td>Managers and chiefs meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>2. <strong>Card</strong> to be given to smokers indicating &quot;no smoking&quot; (may print as tear-off pads)</td>
<td>All managers through meetings and interoffice mail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>3. Announcements</td>
<td>E-mail to all employees and other appropriate distribution lists at other facilities E-mail to managers E-mail to providers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>4. &quot;Fireside Chat&quot;</td>
<td>E-mail from CEO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>5. <strong>Flyers</strong></td>
<td>Paychecks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>6. Policy</td>
<td>New-employee orientation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>7. <strong>Town Hall Meeting</strong></td>
<td>Lunchtime meeting(s) for all interested employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employees</td>
<td>8. Article and calendar section</td>
<td>Employee newsletter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unions</td>
<td>9. <strong>Letter</strong></td>
<td>Sent to unions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients and Community</td>
<td>10. <strong>Banner</strong></td>
<td>Placement in facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients and Community</td>
<td>11. <strong>Recorded message</strong></td>
<td>On-telephone for callers on hold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients and Community</td>
<td>12. <strong>Patient information</strong></td>
<td>Patient packet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients and Community</td>
<td>13. <strong>Reminder Cards</strong></td>
<td>Through scheduling</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients and Community</td>
<td>14. <strong>Press release</strong></td>
<td>All media</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Bold italic items require funding.)
<table>
<thead>
<tr>
<th>TARGET AUDIENCE</th>
<th>WHAT TOOL</th>
<th>HOW TO DISSEMINATE</th>
<th>WHO RESPONSIBLE</th>
<th>TARGET DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients and Community</td>
<td>15. Contacts with local agencies</td>
<td>Follow-up to press release</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients and Community</td>
<td>16. Talking points Q &amp; A re: policy background and rationale</td>
<td>Task force leadership for performance improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inpatients</td>
<td>17. <strong>Pre-admit information</strong></td>
<td>Pre-admit packet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physicians</td>
<td>18. Hospital Protocol</td>
<td>Chiefs meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19. Facility Policy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>20. <strong>Flyers</strong></td>
<td>Facility information desks and waiting areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>21. Health education stop-smoking programs <em>(Rebate for employees who enroll by DATE.)</em></td>
<td>Through talking points and Q &amp; A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>22. <strong>Signs</strong></td>
<td>Through facility services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteers</td>
<td>23. Flyers and cards</td>
<td>Meet with volunteer coordinator</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(Bold italic items require funding.)*
**APPENDIX H: CHART STICKER TEMPLATE**

Avery Labels #5162 and #5262 (1.33”x4”)

From Next Generation Tobacco Control Alliance Health Care Provider’s Toolkit for Providing Smoking Cessation Services

<table>
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<tr>
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<th>BP</th>
<th>Date</th>
<th>Weight</th>
<th>BP</th>
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<td>Temp</td>
<td>Resp</td>
<td>Pulse</td>
<td>Temp</td>
<td>Resp</td>
</tr>
<tr>
<td>Smoking Status:</td>
<td>Current</td>
<td>Former</td>
<td>Never</td>
<td>Smoking Status:</td>
<td>Current</td>
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<tr>
<td>Advice Given:</td>
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<td>Advice Given:</td>
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<td>Resp</td>
</tr>
<tr>
<td>Smoking Status:</td>
<td>Current</td>
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<td>Never</td>
<td>Smoking Status:</td>
<td>Current</td>
</tr>
<tr>
<td>Advice Given:</td>
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<td>☐</td>
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<td>Advice Given:</td>
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<td>Pulse</td>
<td>Temp</td>
<td>Resp</td>
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<tr>
<td>Smoking Status:</td>
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<td>Current</td>
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<tr>
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<td>Pulse</td>
<td>Temp</td>
<td>Resp</td>
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<tr>
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<td>Current</td>
<td>Former</td>
<td>Never</td>
<td>Smoking Status:</td>
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<tr>
<td>Advice Given:</td>
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<td>Advice Given:</td>
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</tbody>
</table>
## Pharmacologic Product Guide: FDA-Approved Medications

### Nicotine Replacement Therapy (NRT) Formulations

<table>
<thead>
<tr>
<th>Product</th>
<th>Gum</th>
<th>Lozenge</th>
<th>Transdermal Patch</th>
<th>Nasal Spray</th>
<th>Oral Inhaler</th>
<th>Bupropion</th>
<th>Varenicline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicorette®, Generic</td>
<td>OTC 2 mg, 4 mg</td>
<td>Original, cinnamon, fruit, mint (various), orange</td>
<td></td>
<td></td>
<td>Nicotrol Inhaler3</td>
<td>Nicorette SR</td>
<td>Chantix4</td>
</tr>
<tr>
<td>Zyban</td>
<td>OTC</td>
<td></td>
<td></td>
<td>Nicotine transdermal patch Rx (generic)</td>
<td>150 mg sustained-release tablet</td>
<td>Rx</td>
<td></td>
</tr>
<tr>
<td>Chantix</td>
<td>OTC</td>
<td></td>
<td></td>
<td>Nicotine inhaler Rx</td>
<td>30 mg cartridge delivers 4 mg nicotine vapor</td>
<td>Rx</td>
<td></td>
</tr>
</tbody>
</table>

### Precautions

- Recent (<2 weeks) myocardial infarction
- Serious underlying arrhythmias
- Severe respiratory disease
- Pregnancy and breastfeeding
- Adolescents (<18 years)

### Dosage

- >25 cigarettes/day: 4 mg
  - Week 1: 1 piece q 1–2 hours
  - Week 2-5: 1 piece q 2–4 hours
  - Maximum, 24 pieces/day
- 21 cigarettes/day: 4 mg
  - Week 1: 1 lozenge q 1–2 hours
  - Week 2–5: 1 lozenge q 4–8 hours
  - Maximum, 20 lozenges/day
- <25 cigarettes/day: 2 mg
  - Week 1–6: 1 piece q 1–2 hours
  - Week 7–9: 1 piece q 4–8 hours
  - Maximum, 12 pieces/day

### Administration

- Chew each piece slowly
- Do not chew or swallow
- Do not chew or swallow
- May use patch for 16 hours if patient experiences sleep disturbances (remove at bedtime)
- Duration: 8–10 weeks
- Duration: 1–2 hours
- Duration: 1–2 weeks
- Duration: 7–12 weeks
- Duration: up to 12 weeks
- Duration: 3–6 months
- Duration: up to 12 weeks

### Contraindications:

- Severe hepatic cirrhosis
- Concomitant bupropion (e.g., Wellbutrin) therapy
- Seizure disorder
- Current or prior diagnosis of bulimia or anorexia nervosa
- Concomitant therapy with medications or medical conditions known to lower the seizure threshold
- Neuropsychiatric changes, agitation, depressed mood, suicidal ideation or behavior

### Warnings:

- Serious underlying arrhythmias
- Serious or worsening angina pectoris
- Recent (<2 weeks) myocardial infarction
- Underlying chronic nasal disorders (rhinitis, nasal polyps, sinusitis)
- Severe reactive airway disease
- Pregnancy (category D) and breastfeeding
- Adolescents (<18 years)

### Dosage

- 150 mg po at AM x 3 days, then 150 mg po bid
  - Do not exceed 300 mg/day
  - Allow at least 8 hours between doses
  - Avoid bedtime dosing to minimize insomnia
  - Dose tapering is not necessary
  - Can be used safely with NRT
  - Duration: 7–12 weeks, with maintenance up to 6 months in selected patients

### Days 1–3:

- 0.5 mg po q AM
- 0.5 mg po q PM
- Weeks 2–12:
- 1 mg po bid
- Patients should begin therapy 1–2 weeks prior to quit date
- Take dose after eating with a full glass of water
- Dose tapering is not necessary
- Nausea and insomnia are side effects that are usually temporary
- Duration: 12 weeks; an additional 12 week course may be used in selected patients
## NICOTINE REPLACEMENT THERAPY (NRT) FORMULATIONS

<table>
<thead>
<tr>
<th>Gum</th>
<th>Lozenge</th>
<th>Transdermal Patch</th>
<th>Nasal Spray</th>
<th>Oral Inhaler</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
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</tr>
</tbody>
</table>

### Advantages
- Mouth/jaw soreness
- Headache
- Nausea
- Insomnia

### Disadvantages
- Nausea
- Dry mouth
- Nervousness/difficulty concentrating
- Rash
- Constipation

### Variencline
- Insomnia
- Nausea
- Sleep disturbances (insomnia, abnormal/vivid dreams)
- Constipation
- flatulence

### Bupropion SR
- Headache
- Cough
- Mouth and/or throat irritation
- Local skin reactions (erythema, pruritus, burning)
- Rash

### Lozenge
- Mouth/jaw soreness
- Headache
- Nausea
- Insomnia

### Transdermal Patch
- Local skin reactions (erythema, pruritus, burning)
- Headache
- Sleep disturbances (insomnia, abnormal/vivid dreams)

### Nasal Spray
- Nasal and/or throat irritation (hot, peppy, or burning sensation)
- Rhinitis
- Tearing
- Sneezing
- Cough

### Oral Inhaler
- Mouth and/or throat irritation
- Cough
- Headache

### Effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Gum</th>
<th>Lozenge</th>
<th>Transdermal Patch</th>
<th>Nasal Spray</th>
<th>Oral Inhaler</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Cough</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Mouth and/or throat irritation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Rash</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

### Cost/Day

<table>
<thead>
<tr>
<th>Formulation</th>
<th>Gum</th>
<th>Lozenge</th>
<th>Transdermal Patch</th>
<th>Nasal Spray</th>
<th>Oral Inhaler</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 mg:</td>
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<td>☐</td>
<td>☐</td>
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<tr>
<td>4 mg:</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
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</tr>
</tbody>
</table>

### Notes

1. Marketed by GlaxoSmithKline.
2. Transdermal patch formulation previously marketed as Habitrol.
3. Marketed by Pfizer.
4. Pregnant smokers should be offered cessation counseling interventions that exceed minimal advice to quit. Pregnant smokers should be offered cessation counseling interventions that exceed minimal advice to quit. Pregnancy should be encouraged to quit without medication based on insufficient evidence of effectiveness and hypothetical concerns with safety. Pregnancy should be encouraged to quit without medication based on insufficient evidence of effectiveness and hypothetical concerns with safety.

---

**Abbreviations:** Hx, history; MAO, monoamine oxidase; NRT, nicotine replacement therapy; OTC, (over-the-counter) non-prescription product; Rx, prescription product.

For complete prescribing information, please refer to the manufacturers' package inserts.

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Updated April 17, 2009.
APPENDIX J: SAMPLE STANDING ORDERS
TO INITIATE TOBACCO-CESSATION TREATMENT

UMASS MEMORIAL MEDICAL CENTER
PHYSICIAN’S ORDERS
NICOTINE DEPENDENCE TREATMENT

NAME:
ADDRESS:
BIRTHDATE/AGE:
SEX:
MEDICAL RECORD NUMBER:

HEIGHT _______ Weight _______

ALLERGIES: [ ] YES (LIST BELOW) OR [ ] LISTED PREVIOUSLY
[ ] NONE KNOWN

PROVIDER TO SIGN AND PLACE PAGER NUMBER LEGIBLY UNDER EACH ORDER SET
INDICATE CHOICE OF ORDER OPTIONS BY USING X IN CHECK BOXES

Consult Tobacco Consultation Service (ext 44372)
Pt. declines consultation with Tobacco Consultation Service.

Nicotine Patch _____mg. Remove old patch and apply new
Nicotine Gum _____mg. Chew and "park" in cheek for 15-30 minutes every 1 hour prn (dosage range 9-24 pieces/day) to avoid withdrawal.
Nicotine Lozenge _____mg. Use 1 lozenge every 1 hour PRN (max dose 5 lozenges in 6 hrs or 20 lozenges in 24 hrs) to avoid withdrawal symptoms
Bupropion SR 150 mg PO daily for 3 days, then increase to 150mg PO twice daily. (May use in conjunction with NRT) Do not use if your patient has a history of a seizure disorder, or increased risk of seizures, h/o anorexia/bulimia, or is taking an MAO inhibitor
Varenicline (Chantix) 0.5 mg PO daily on days 1-3, then 0.5 mg PO twice daily on days 4-7, then 1 mg PO twice daily starting on day 8 (dosage adjustment necessary with severe renal impairment). May use in conjunction with NRT (avoid nicotine patch due to high risk of nausea) during first week of treatment.

DOSING GUIDELINES:

Nicotine Patch:
<10 cigarettes a day - 7mg patch
10-19 cigarettes a day or < 1 can/pouch smokeless per week - 14 mg patch
20-30 cigarettes a day or 1 can/pouch smokeless tobacco per week - 21 mg patch
For heavy users (over 30 cigarettes a day or over 1 can/pouch per week consider adding a prn gum or lozenge to avoid withdrawal symptoms

Nicotine Gum:
<24 cigarettes / day - 2mg gum
≥ 24 cigarettes / day - 4mg gum

Nicotine Lozenge:
<24 cigarettes / day - 2mg lozenge
≥ 24 cigarettes / day - 4mg lozenge

MEDICATION ORDERS ONLY

Admit to/Change Attending To: __________________________________________ Pager: __________
Resident: __________________________________________ Pager: __________
Intern/NP (First Call): __________________________ Pager: __________
Overnight coverage: __________________________ Pager: __________
House Staff Coverage: Yes No (uncovered)

Note: Please refer to Adult Nicotine Withdrawal Clinical Practice Guideline for additional information.

Signature of MD/DO/NP/PA: __________________________ Printed Name: __________________________ Pager: __________
Signature of RN: __________________________ Printed Name: __________________________ Date: __________ Time: __________

Prohibited Abbreviations: U, qd, qod, IU, .1 (write 0.1), 1.0 (write 1), MS, MSO4, MgSO4, μg, AS, AD, AU, OS, OD, OU, tiw

NS ORDER 0536 Rev 5/08
APPENDIX K: ENFORCEMENT SCRIPTS

Be friendly and respectful when informing employees, patients, or visitors about the tobacco-free policy. Remember, tobacco-use is an addiction, which can be triggered by stress. Our tobacco-free policy is designed to provide a safe and healthy environment and model healthy behaviors. As you enforce the policy, provide as much help as possible: First educate people about the policy. Then, as appropriate, offer symptom relief for tobacco-users during their stay, encourage tobacco-users to quit when they are ready, or direct visitors to places where they are allowed to smoke. Keep discussions about the tobacco-use policy brief and non-confrontational.

Schedulers, registration and physician offices to patients:

“I’d like to let you know that for the health of patients, employees and visitors, ORGANIZATION does not allow tobacco-use on campus. That includes all property, grounds and parking area. Under our policy, a patient cannot leave the hospital to smoke. However, if you are interested, we can provide nicotine-replacement therapy to relieve your symptoms. We also can provide nicotine gum for family members and visitors who request it.”

Employees to patients, visitors, contractors, paramedics, police officers, firefighters, tenants, vendors, or volunteers:

Scenario: Someone lights up on campus:

“Hi. I need to let you know that for the health of our patients, employees and visitors, ORGANIZATION does not allow tobacco-use on campus. Please put out your cigarette and dispose of it. Here’s a card that explains our policy and offers some other options.”

Scenario: Someone is smoking in a car, truck or other vehicle in the parking lot.

“Hello. I just wanted to let you know that this parking lot is part of our smoke-free campus. Here is an information card that explains our policy and gives you some other options.”

Employee to employee:

Scenario: Employee says, “If I can’t smoke on campus, I’ll just leave when I need a smoke.”

“That’s probably something you need to talk about with your supervisor.”

Employee to patient:

Scenario: Patient says, “If I can’t smoke on campus, I’ll just leave your campus.”

“I’m sorry, but for your safety, patients are asked not to leave ORGANIZATION’s property. If you’d like, we can assist you with other options for your nicotine cravings.”

Scenario: Patient has been told, “If you cooperate with this procedure, I’ll let you smoke.”

“I’m sorry you got that information. ORGANIZATION now has a tobacco-free campus. We can see about providing you with a patch or some gum to help you with your cravings.”

Potential challenges with employees, patients, or visitors

Scenario: Smoker becomes irate and out of control, saying, “I need a cigarette.”

“It sounds like things are tough for you right now. We don’t make exceptions to our policy, for the health and safety of everyone. I can offer you nicotine gum or lozenges that will make it easier for you not to smoke. Or, if you prefer, I can show you the quickest way off our smoke-free area. Is there anything else I can do?

(Have nicotine gum and lozenges available for staff members, families and visitors on each nursing unit or at another designated site.)
Scenario: Smoker, reminded of the policy, declares: “I’m going to smoke here anyway!”

“Sorry you’re having a rough time. (If smoker seems agitated) Could you please pick up your cigarette butt when you’re done. Here is an information card that explains our policy and gives you some other options.” Then walk away.

Scenario: Smoker responds: “Then where am I supposed to smoke?”

“In order to provide a healthier environment, ORGANIZATION no longer permits smoking anywhere on the campus. I can show you where you can get some free nicotine lozenges, but if you wish to smoke, you will need to leave the campus. I can show you the quickest way off our smoke-free area if you like. Here is an information card that explains our decision and gives you some other options.”

Scenario: Tobacco-user rants about the tobacco-free policy.

“Perhaps you should tell a manager how you feel about this policy. I suggest you call NAME OF MANAGER IN CHARGE.

Scenario: Smoker says, “If I can’t smoke here, I’ll go to another hospital.”

“I’d hate to see you leave. Our policy is designed to protect the health of patients, employees and visitors and (depending upon the locale…) is similar to other hospitals in this area. While you’re here, we can make it easier for you not to smoke by giving you nicotine gum or lozenges. Here is an information card that explains our policy and gives you some options.”
# APPENDIX L: HOW MUCH WILL IT COST?

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>OPTIONS (2008 ESTIMATES)</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communications Campaign</td>
<td>Banners: ................................ $150 each</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Posters with tear-offs: .................. $3 each</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flyers: .................................... $1 each</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Brochures: .................................. $0.50 each</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buttons: .................................... $0.75-$1 each</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Video: ........................................ (Range)</td>
<td></td>
</tr>
<tr>
<td>Website Development</td>
<td>For employee program</td>
<td></td>
</tr>
<tr>
<td>Copying, duplication</td>
<td>Training handouts</td>
<td></td>
</tr>
<tr>
<td>Tobacco-Free Signs</td>
<td>Metal signs .................................. $25-200</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Removal of ashtrays</td>
<td></td>
</tr>
<tr>
<td>Meetings and Celebration</td>
<td>Food and drink for meetings</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Celebration of new policy</td>
<td></td>
</tr>
<tr>
<td>Quitting help for employees</td>
<td>Nicotine patches and lozenges for employees wanting to quit</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cessation counseling</td>
<td></td>
</tr>
<tr>
<td>Support packs for visitors</td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX M: SAMPLE PATIENT RELEASE FORM

UAMS Medical Center
Leaving the Unit for Smoking Form
RELEASE

I have been informed that UAMS Medical Center has a smoke-free policy.

It is my desire to leave the unit to smoke.

I understand that my physician has been notified, and that certain medications and/or treatments will be discontinued until my return to the floor.

I understand that leaving to smoke is against medical advice.

I assume all risk of injury that may occur to me, the patient, while smoking. I assume all risk of delayed treatments that may occur due to my absence to smoke.

I understand and accept the risks and/or any complications that may arise as the result of leaving the unit to smoke.

I hereby RELEASE, WAIVE, DISCHARGE AND COVENANT NOT TO SUE UAMS, UAMS Medical Center, its agents, employees, and physicians from any and all liability, claims, demands or injury, including death, that may be sustained by me in leaving the unit to smoke.

__________________________________________________________
(Patient Name) (Date and Time)

__________________________________________________________
(MD/RN Signature) (Date and Time)

☐ Patient has been informed of hospital policy and refuses to sign form.

University of Arkansas for Medical Sciences Office of Communications & Marketing: Get Healthy
4301 W. Markham St. # 890, Little Rock, AR 72205
Email: gethealthyar@uams.edu
UMass Memorial Medical Center

Clinical Practice Guideline

Guideline Name: Adult Nicotine Withdrawal Guideline
Effective Date: 5/27/08

I. OWNER: TOBACCO CONSULTATION SERVICE SUBGROUP OF THE TOBACCO-FREE INITIATIVE WOPRKGROUP

BACKGROUND & AIM:
The Tobacco Free Initiative mandates that, as of May 27, 2008, all UMMMC facilities and grounds will be smoke free. In keeping with this mandate, all inpatients will be screened by the admitting physician/LIP for nicotine dependence. If nicotine dependence therapy is warranted, it will be ordered using the Nicotine Dependence Treatment Order Sheet. The goal of this policy is to assist all patients in a quit attempt while keeping them free of uncomfortable withdrawal symptoms during their hospitalization.

Medication usage in treating nicotine dependence parallels other addictions in treating acute withdrawal (detoxification), protracted withdrawal, and maintenance. Primary medications are Nicotine Replacement Therapy (NRT); patch, gum, spray, inhaler, and lozenge as well as Buproprion and Varenicline (Chantix). Utilizing these treatments to help manage required abstinence periods and as part of nicotine dependence treatment is routine standard of care1.

II. CLINICAL PRACTICE GUIDELINE:

RESPONSIBILITY:

Physician/Licensed Independent Practitioner (MD/LIP)
   a. Identifies and documents tobacco use (cigarettes, cigars, pipe, smokeless tobacco) as part of the admitting History & Physical
   b. Uses the Nicotine Dependence Treatment Order form to order the appropriate pharmacologic therapy for inpatient tobacco cessation.
   c. Based upon the importance of the policy and the message that it conveys to our patients, orders may no longer be written allowing patients to use tobacco while on the grounds of any UMMMC facility.
Registered Nurse (RN)

a. Counsels the patient that UMMC and its grounds are Tobacco Free and the use of tobacco on hospital property is prohibited.

b. Encourages patient and family to send home all tobacco and tobacco-related products as to have them in their possession would be a trigger to use.

c. Administers ordered medications per hospital policy.

d. Notifies physician/LIP of inadequate relief of nicotine withdrawal symptoms.

e. Implements patient education on the health risks of smoking/smokeless tobacco and the benefits of quitting.

f. Continues to offer a referral to Quitworks per protocol.

PROCEDURE:

1. Physician/LIP will screen for nicotine dependence as part of the Admission History & Physical. Document findings, including nicotine delivery system (cigarettes, cigars, pipe, smokeless tobacco, etc. or combination), and number of cigarettes smoked/smokeless tobacco chewed per day.

2. Complete Nicotine Dependence Treatment Order Sheet, specifying pharmacologic agent of choice and need for Tobacco Consultation Liaison Service.

3. Document success with pharmacologic agent of choice in Discharge Summary. Include instructions for continuation of pharmacologic agent and prescriptions at discharge. NRT should be prescribed for at least 3 months (not greater than a year).

AVAILABLE THEURAPEUTIC OPTIONS:

NICOTINE REPLACEMENT THERAPY (NRT):

Indications and Contraindications for NRT:

Pregnant and Lactating Smokers: Patches are not recommended for lactating women. For Pregnant women intermittent dosing products may be preferable as these provide a lower daily dose of nicotine than patches. However, a patch is preferred if the woman is suffering from nausea. Patches should not be used during night-time sleep.²

Cardiovascular Patients: NRT is safer than smoking in dependent smokers, even in those patients who are acutely ill. However, until cautions regarding Cardiovascular disease (CVD) are removed from NRT labeling, the following recommendations should be followed: In patients who have experienced a serious cardiovascular event, or
hospitalization for a cardiovascular complaint in the previous 4 weeks or where they suffer with uncontrolled hypertension, care should be used in prescribing NRT. Use of NRT in cardiovascular patients in general does not appear to be associated with an increased risk of MI.\textsuperscript{4}

Nicotine replacement therapy can be administered to Acute Coronary Syndrome (ACS) patients as soon as it can be determined that the patient is:
- Clinically stable,
- Exhibits little risk of cardiac ischemia
- Has been successfully revascularized.

NOTE: Withhold in patients with unstable arrhythmia, vasospastic conditions, uncontrolled CHF or unstable angina.

Patients with a history of multiple quit attempts should be offered a combination of a patch and gum.

EXCLUSIVITY CRITERIA:
Known Allergy to Nicotine Product: (specify which) ____________

Active Peptic Ulcer Disease: Both nicotine gum and transdermal patches should be used in caution in patients with active peptic ulcer disease.

Severe Dermatologic Conditions: Nicotine transdermal patches should not be used in patients with severe dermatologic conditions.
RECOMMENDED DOSAGE:

Suggested NRT Dosing for ACS Patients

<table>
<thead>
<tr>
<th>For Patients who smoke:</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5 cigarettes/day</td>
<td>None</td>
</tr>
<tr>
<td>5-10 cigarettes/day</td>
<td>14 mg / day</td>
</tr>
<tr>
<td>11-20 cigarettes/day</td>
<td>21 mg / day</td>
</tr>
<tr>
<td>21-40 cigarettes/day</td>
<td>21 mg / day</td>
</tr>
</tbody>
</table>

Suggested NRT Dosing for GENERAL POPULATION

<table>
<thead>
<tr>
<th>DAILY CIGARETTE USE</th>
<th>PIPE /SPIT/SMOKELESS TOBACCO</th>
<th>PATCH DOSE PER DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 10 cigarettes</td>
<td></td>
<td>7mg patch</td>
</tr>
<tr>
<td>10 – 19 cigarettes</td>
<td>&lt;1 can / pouch per week</td>
<td>14 mg patch</td>
</tr>
<tr>
<td>20 – 30 cigarettes</td>
<td>1 can / pouch per week</td>
<td>21 mg patch</td>
</tr>
</tbody>
</table>

For Heavy Tobacco Users (>30 cigarettes a day or > 1 can/pouch per week), consider adding a prn gum or lozenge.

Nicotine Gum: Nicotine gum 2 mg can be used in conjunction with other nicotine replacement therapies. 1 piece every 1-2 hours not to exceed 24 pieces a day.

If necessary, may use multiple patches:

<table>
<thead>
<tr>
<th>DAILY CIGARETTE USE</th>
<th>PIPE/SPIT/SMOKELESS TOBACCO</th>
<th>PATCH DOSE PER DAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 – 40 cigarettes</td>
<td>2 cans/ pouches per week</td>
<td>21mg patch plus 14 mg patch (total 35 mg)</td>
</tr>
<tr>
<td>&gt; 40 cigarettes</td>
<td>&gt; 3 cans/ pouches per week</td>
<td>TWO 21 mg patches (total 42 mg)</td>
</tr>
</tbody>
</table>

Note: There is only a small marginal benefit in quit rates when using multiple patches to equal >21 mg/day.

May treat with Hydrocortisone 1% cream if itching, redness, or burning occurs.
GUM

☐ Nicotine gum _____mg: Chew and “park” in cheek for 15-30 minutes every 1 hour PRN (dosage range 9-24 pieces/day).
  < 24 cigarettes per day - 2 mg
  ≥ 24 cigarettes per day - 4 mg

LOZENGES

☐ Nicotine lozenge _____mg: Use 1 lozenge every 1 hour PRN (max dose 5 lozenges in 6 hours or 20 lozenges in 24 hours).
  < 24 cigarettes per day - 2 mg
  ≥ 24 cigarettes per day - 4 mg (use if patient normally smokes within 30 minutes after waking)

NASAL SPRAY

☐ Nicotine Nasal Spray (Nicotrol NS) 10mg/ml: Initial Dose: 1-2 doses per hour. One dose = 2 sprays (one in each nostril). Maximum dose is 5 doses per hour or 40 doses per day.

INHALER

☐ Nicotine Inhaler (Nicotrol Inhaler) 10mg/cartridge: Initial Dose: 6-16 cartridges per day, initially using 1 cartridge every 1-2 hours. Each cartridge is effective for 20 minutes of active puffing. Maximum dose is 16 cartridges per day.

Other Smoking Cessation Treatments:

BUPROPION SR: Bupropion SR may be used to alleviate symptoms of nicotine withdrawal. Dosing should be 150 mg/day p.o. for 3 days, then 150 mg p.o. bid for 7 to 12 weeks. If insomnia is experienced the order should be written as 150mg p.o. in the morning and give the second dose earlier in the evening at 5pm. This drug does not attain therapeutic blood levels for 1 to 2 weeks so this should be started as soon as possible. May use in conjunction with Nicotine replacement therapy.
Do not use Bupropion SR if any of the following apply:

- History of seizure disorder or increased risk of seizures
- History of anorexia or bulimia
- Patient is taking an MAO inhibitor

**Varenicline (Chantix)**: The most successful use of Varenicline (Chantix) is for the patient to set a quit date and then dosing should start one week before this date. Patients should be treated for 12 weeks and an additional 12 weeks of treatment can be added for patients who successfully have stopped smoking and need additional support.

**Contraindications and Cautions:**

**Renal Impairment:**
Dosage adjustment necessary with severe renal impairment (see dosing recommendations).

**Age:**
Varenicline is not recommended for patients under the age of 18.

**Combining with other Therapeutic Options:**
Using Varenicline with Bupropion and other smoking cessation therapies has not been studied, so this is not recommended.

May use in conjunction with Nicotine replacement therapy during first week of treatment. Avoid Nicotine patch due to higher risk of nausea.

**Pregnancy:**
This is a Pregnancy Category C drug. It is not recommended for nursing mothers. There are no adequate and well controlled studies in pregnant women. Varenicline should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

**Usual Dosing:**

<table>
<thead>
<tr>
<th>Treatment Duration</th>
<th>Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Days 1 – 3:</td>
<td>0.5 mg once daily</td>
</tr>
<tr>
<td>Days 4 – 7:</td>
<td>0.5 mg twice daily</td>
</tr>
<tr>
<td>Day 8 – End of Treatment</td>
<td>1 mg twice daily</td>
</tr>
</tbody>
</table>
Dosing for Patients with Impaired Renal Function:

<table>
<thead>
<tr>
<th>Impairment</th>
<th>Dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild to moderate</td>
<td>Use usual dosing – no adjustment needed</td>
</tr>
<tr>
<td>Severe</td>
<td>Starting dose: 0.5 mg once daily. Then Titrate as needed to: Min dose of 0.5 mg twice a day.</td>
</tr>
<tr>
<td>End-Stage Renal Disease (hemodialysis)</td>
<td>Max dose of 0.5 mg once daily if tolerated well.</td>
</tr>
</tbody>
</table>

ASSOCIATED TOOLS:

   Nicotine Dependence Treatment Order Form

REFERENCES:


3 Nicotine replacement therapy in patients with cardiovascular disease: guidelines for health professionals; Hayden McRobbie & Peter Hajek; Addition (2001) 96, 1547-1551


5 Cardiovascular Center Pocket Guide, University of Michigan Board of Regents

6 Nicotine Replacement Therapy Physician Orders, Riverside Methodist Hospital

7 http://www.quitsolutions.org/quit-solutions_HCR_Nicotine-Replacement-Therpay.asp

8 Cardiovascular Center Pocket Guide, Guidelines for the Use of Nicotine Replacement Therapy (NRT) and Buproipion Hydrochloride (Wellbutrin SR, Zyban) with Acute Coronary Syndrome (ACS) Patients – University of Michigan Board of Regents, 2005

9 Chantix Product Information Sheet, Pfizer Labs, 2006
APPENDIX O: DISCHARGE PLAN FORM TEMPLATE

Adapted from Treating Tobacco-use and Dependence in Hospitalized Smoker, University of Wisconsin Center for Tobacco Research and Intervention

Patient: _______________________________________________________________________

ID number: ___________________________________________________________________

Referred by: __________________________________________________________________

Discharge plan:

Quit date: ___________________________________________________________________

Consult visit date: ______________________________________________________________

Comments: __________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Medications prescribed:

_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Follow-up plan:

_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Convenient telephone-based services to help you quit or sustain your efforts are available through a tobacco quitline, 1-800-QUIT NOW

Nicotine Nicotine Anonymous offers 12-Step groups, similar and compatible with Alcoholics Anonymous, which also may be helpful. Check http://www.nicotine-anonymous.org/

Signature: ________________________________________________________________________________

Date: _____________________________________________________________________________________
**APPENDIX P: TOBACCO-TREATMENT TRAININGS**

The **American Academy of Family Physicians** offers webcasts, podcasts and courses on how to address tobacco-use by surgical patients, which can also be taken for CME credit: [http://www.aafp.org/online/en/home/clinical/publichealth/tobacco/resources.html](http://www.aafp.org/online/en/home/clinical/publichealth/tobacco/resources.html)

The **TobaccoFreePatients** offers online trainings in how to provide clinical tobacco interventions based on a National Cancer Institute educational program. [http://www.tobaccofreepatients.com](http://www.tobaccofreepatients.com)

**Rx for Change: Clinician-Assisted Tobacco-cessation** is a free, comprehensive, turn-key, tobacco-treatment training program that equips health professionals, students and licensed clinicians with knowledge and skills for assisting patients with quitting. Trainings can be live or on-line and can range from one to 12 hours. [http://rxforchange.ucsf.edu/](http://rxforchange.ucsf.edu/)

The **University of Massachusetts Medical School** offers a self-paced on-line basic skills course with continuing education credits for nurses, social workers, health educators, respiratory therapists and certified substance abuse counselors. It also periodically offers a five-day, live intensive tobacco-treatment course for health care workers. [http://www.umassmed.edu/tobacco/training/index.aspx](http://www.umassmed.edu/tobacco/training/index.aspx)

**Mayo Clinic** periodically offers four-day trainings for a Tobacco-treatment Specialist Certification and has a distance-learning option as well. [http://mayoresearch.mayo.edu/mayo/research/ndc_education/tts_certification.cfm](http://mayoresearch.mayo.edu/mayo/research/ndc_education/tts_certification.cfm)

The **American Society of Hospital Pharmacists** maintains a website with patient materials, articles and trainings at [http://www.ashp.org/tobacco](http://www.ashp.org/tobacco)


The **University of Wisconsin’s Center for Tobacco Research and Investigation** offers on-line continuing education courses for doctors, nurses and pharmacists. The website has videos modeling doctors talking with patients about tobacco-use. [http://www.ctri.wisc.edu/HC.Providers/healthcare.htm](http://www.ctri.wisc.edu/HC.Providers/healthcare.htm)

The **Alliance for the Prevention and Treatment of Nicotine Addiction (APNTA)** lists trainings, resources and links on its website: [http://www.aptna.org/](http://www.aptna.org/)

The **University of Medicine & Dentistry of New Jersey** periodically offers a five-day course for health care professionals wanting a certificate in tobacco-dependence treatment. [http://www.tobaccomprogram.org/tobspeciatrain.htm](http://www.tobaccomprogram.org/tobspeciatrain.htm)
APPENDIX Q: LETTER TO NEIGHBOR TEMPLATE

DATE

NAME
TITLE
ADDRESS
CITY, STATE ZIP CODE

Dear NAME:

Effective DATE, ORGANIZATION will take a proactive step to implement a tobacco-free policy on all of our campuses. The tobacco ban will apply to all patients, visitors, medical staff members, vendors and employees. This means as of DATE, no tobacco-use of any kind will be permitted inside hospital buildings and on parking lots or grounds.

We have talked with employees about possible neighborhood concerns and are confident that most will exercise consideration of you and your property. Though we do not endorse it, we are concerned that some employees may leave the hospital to use tobacco products. If any staff behaviors, whether related to smoking or not, becomes a problem for you (CHOOSE: OR YOUR EMPLOYEES or OR THOSE WITH WHOM YOU LIVE), please contact me at the number below.

As a health care institute, ORGANIZATION's primary mission is to protect the health of those in our community, while promoting a culture of healthier living. We are not asking employees to stop using tobacco. However, we are requiring them to refrain from tobacco-use during work hours. ORGANIZATION is developing programs for employees who choose to quit using tobacco products altogether as well as programs to help get them through their designated shifts. Our patients are our first priority. Thus we are working with our physicians as we develop coping and nicotine-treatment strategies.

We appreciate your help and support as we head toward DATE.

Sincerely,

NAME OF ADMINISTRATIVE CHAMPION, TITLE
NAME OF FACILITY
TELEPHONE NUMBER OF FACILITY
APPENDIX R: LETTER TO PHYSICIANS TEMPLATE


Send on hospital letterhead.

Date

Physician Name
Address
City, State, Zip

Dear Dr. ___________

Effective DATE, NAME OF HOSPITAL will take a proactive step to implement a tobacco-free policy on all of our campuses. The tobacco ban will apply to all patients, visitors, medical staff members, vendors, and employees. This means as of DATE, no tobacco-use of any kind will be permitted inside hospital buildings and on parking lots or grounds.

Please inform patients scheduled for a procedure at our facility that we do not allow tobacco-use by patients or visitors at our hospital or on hospital properties. If you wish, you can provide patients with a flyer that explains our policy or display the flyers in your office. You also are welcome to adapt the attached patient letter.

Research shows that continued tobacco-use can cause problems for hospitalized patients: Smoking retards wound healing, increases infection rates in surgeries and is the most common cause of poor birth outcomes. We hope your conversation with your patient about our policy can lead to a discussion about why, both in the short-term and the long-term, now is a good time for your patient to quit tobacco.

Our patient-treatment protocols will include tobacco-dependence treatment. Whether you assist the patient in quitting or refer him or her to the tobacco quit line, 1-800 QUIT NOW, we will provide relief from nicotine withdrawal during the hospital stay. If the patient chooses, we will assist with quitting. As a partner in health and a skilled professional, we know you will follow-up and provide additional support your patient may need.

ORGANIZATION is not asking patients to stop using tobacco products, but we require them to refrain from its use while in our facility. Patients who insist on leaving the campus to use tobacco must check out of the hospital against medical advice (AMA). They can be re-admitted through ORGANIZATION’s standard admitting process.

As a healthcare organization, our mission is to protect the health of those in our community while promoting and supporting a culture of healthy living. We appreciate your support as we implement this program. Please call me with any questions, phone number.

Sincerely,

XXX, President and CEO
NAME OF HOSPITAL
To Our Patients:

Beginning on DATE, NAME OF HOSPITAL will adopt a campus-wide, tobacco-free policy. This policy means that patients, visitors, employees and physicians are prohibited from using tobacco products anywhere inside or outside ORGANIZATION.

ORGANIZATION has joined hospitals across the nation that have become tobacco-free. This policy has been endorsed by numerous health advocacy groups, including NAMES OF SUPPORTING ORGANIZATIONS. It is intended to help ORGANIZATION maintain the healthiest possible environment for patients, employees and visitors.

Upon your admission to ORGANIZATION, please notify the admissions staff if you use tobacco. This information will be forwarded to clinicians who can help you quit, provide tobacco-abatement products, or discuss alternative resources for you.

Thank you for your cooperation with this ORGANIZATION policy and for helping maintain a healthier environment for everyone.

If you choose to quit or cut back on tobacco-use, I am always happy to talk with you about it. You may also consider calling the tobacco quit line, 1-800-QUIT NOW, where trained coaches can help you through the quitting process.

Sincerely,

NAME OF PHYSICIAN
APPENDIX T: SAMPLE FAX REFERRAL FORM

WASHINGTON TOBACCO QUIT LINE

FAX REFERRAL FORM Fax Number: 1-800-483-3078

Provider Information: Date: ___/____/____

Health Care Provider Name: ________________________________________________________________

Clinic Name: ____________________________________________________________________________

Contact Name (nurse, med. asst., etc.): __________________________________________________________

Fax: ( ____ ) _____ - _______ Phone ( ____ ) _____-_______

MD back line: ( ____ ) _____-_______

Provider Authorization and Signature (required for pregnant patients only):
I understand that the FDA has not approved the use of over-the-counter nicotine replacement products for
treatment of tobacco-dependence in pregnant women. I have read the enclosed information (reverse side of
this page) regarding smoking risks and benefits of treatment during pregnancy, have discussed this with my
patient, and authorize the WAQL (F&C) to supply NRT (patch, gum or lozenge) along with telephone counsel-
ing for the pregnant patient identified below, if patient is eligible and such treatment is indicated.

Signed _______________________________________________ Date __________________________

Patient Information:

Gender: Male ____________________________ Female_________ Pregnant? Y □  N □

Patient Name: ________________________________________________________________

DOB: _____ / _____ / ______

Address: _______________________________________ City: ____________________________ Zip: ______________

Home #: ( ____ ) _____ - _______ Work #: ( ____ ) _____-_______

Cell #: ( ____ ) _____ - _______

□ I am ready to quit tobacco and request the Washington Tobacco Quit Line contact me to help me with my
quit plans. (Initial)

□ I agree to have the Washington Tobacco Quit Line tell my health care provider(s) that I enrolled in Quit Line
services and (Initial) provide them with the results of my participation.

Congratulations on taking this important step! Telephone support from a Tobacco-Treatment Specialist
will greatly increase your chance of success.
The Washington Tobacco Quit Line will call you. Please check the best times for them to reach you. The Quit Line is open 7 days a week:

☐ 6am - 9am  ☐ 9am - 12pm  ☐ 12pm - 3pm  ☐ 3pm - 6pm  ☐ 6pm - 9pm

Within this 3-hour time frame, please contact me at [check one]:  ☐ Home  ☐ Work  ☐ Cell

FOR WASHINGTON TOBACCO QUIT LINE USE ONLY:

☐ Letter and materials sent (after 3 attempts); Date: ____________________________

☐ WA QL Intervention completed, refused F&C, materials sent; Date: _______________________

☐ WA QL Intervention completed, with enrollment into F&C, materials sent; Date: ___________

☐ Dosed for NRT; Date: ___________________________________________________________

☐ Refused services
TREATING TOBACCO-DEPENDENCE DURING PREGNANCY

Smoking during pregnancy is the primary modifiable risk factor for perinatal complications leading to infant morbidity and mortality in the US today, and is known to cause premature births, low birthweight babies and SIDS. Quitting smoking at any time during pregnancy decreases the risk of birth complications, newborn illnesses and neonatal deaths, but fewer than half of pregnant women who smoke are able to quit.

The FDA has not approved the use of over-the-counter nicotine medications (NRT patch, gum and lozenges) for pregnant women who smoke; however, there is accumulating evidence from European countries (where NRT has been approved for use in pregnancy since 1997) that use of NRT reduces smoking among pregnant women and decreases the risk of adverse smoking-related outcomes.

While quitting without the use of NRT would be preferred, using NRT is clearly safer for maternal-child health than continuing to smoke, as ingredients in tobacco smoke other than nicotine are the primary causes of the conditions leading to adverse pregnancy outcomes. Benowitz and colleagues, while recognizing that animal studies have shown risk of neuro-developmental defects with high doses of nicotine, have determined that there is low to minimal risk to the human fetus associated with judicious NRT use during pregnancy and recommend that such treatment be considered for women who are otherwise unable to quit. Additionally, they advise that NRT can be used without restriction postpartum, as only trace amounts of nicotine are absorbed by breast-fed infants.

The WA State Quitline, in conjunction with the Free & Clear program, offers direct mail order (DMO) NRT patch, gum and/or lozenge for eligible callers, along with our standard counseling program. However, we are unable to provide NRT to pregnant women without the approval of their physician (or other licensed healthcare provider). Therefore, if you would like your patient to receive NRT as part of her treatment for quitting tobacco, please discuss this with her and sign the authorization on the front of this form. Then, when it is faxed to the WAQL, we will assess your patient’s need for NRT and deliver up to eight weeks of nicotine medication to augment our counseling program and help your patient quit, if NRT is indicated and your patient is eligible.

If you have any questions, would prefer to prescribe NRT directly to your patient, or would like additional information, please call one of our medical staff physicians, Tim McAfee or Abigail Halperin at 206-876-2100.

Thank you,

Free & Clear Medical Team

REFERENCES:
For Immediate Release: DATE

ORGANIZATION Announces New Tobacco-Free Policies

(CITY) - ORGANIZATION today announced plans to implement a new tobacco-free policy at all facilities, effective DATE.

Hospital leaders say the new policy reflects the health system’s mission: "We are eliminating tobacco-use on our properties to provide a healthy and safe environment for employees, patients and visitors and to promote positive health behaviors," said NAME, chief executive officer at ORGANIZATION.

The new policy bans the use of all tobacco products, including cigarettes, cigars, pipes and smokeless tobacco, within all properties owned, leased, or occupied by ORGANIZATION. This includes parking lots, hospital vehicles, and employees’ personal vehicles parked on the premises. Employees are prohibited from using tobacco products during working hours.

The US Surgeon General’s Office in 1964 declared that smoking is hazardous to health. Yet smoking remains the number one cause of preventable death and disability, according to the Centers for Disease Control & Prevention.

ORGANIZATION views tobacco-use as a quality concern: “We can no longer turn a blind eye to on-campus smoking when we know that continued tobacco-use can cause problems for a patient,” said chief medical officer, NAME. “Smoking retards wound healing, increases infection rates in surgeries, and is the most common cause of poor birth outcomes.”

Furthermore, three-fourths of all tobacco-users say they want to quit. But the ORGANIZATION medical director recognizes the challenges of breaking the addiction to nicotine and respects an individual’s quitting process. “We are not telling anyone, ‘you must quit smoking.’” said NAME OF MEDICAL DIRECTOR. “We are saying, ‘Don’t use tobacco at our hospital.’ While you are a patient or visitor at this hospital, we can suggest ways to ease nicotine withdrawal symptoms. And if you are ready to quit, we have trained professionals and community partners who can help you.”

ORGANIZATION hopes hospital employees will help inform visitors and patients about the new policy, said NAME OF CEO. “This will not be easy,” he said, “but it’s central to our continuing efforts to make an excellent place to work and to receive health care.” In implementing the new tobacco ban, the hospital plans to offer symptom relief or tobacco-cessation treatment to interested staff, visitors and patients.
APPENDIX V: RESPONSE TO OPPOSITION TEMPLATE

Adapted from letter created by the Kansas Hospital Association:

Letter in Response to Opposition to your Tobacco-Free Policy
(To be printed on hospital letterhead)

Date

Name
Title
Business Name
Address
City, State Zip

Dear (personalize with name),

In response to your recent comment about our tobacco-free policy, our mission calls us to improve the health of not only those we serve and their families, but also those who work with us. Tobacco-use is the number one cause of preventable disease worldwide and is responsible for approximately one in five deaths in the United States. Tobacco-use in and around our hospital poses health and safety risks for patients, employees and visitors.

As a health care provider, we feel it is necessary to take a stand to stop this public health epidemic. ORGANIZATION joins hundreds of hospitals across the nation that have become tobacco-free. Our tobacco-free policy is intended to create a healthy environment for everyone who comes to ORGANIZATION to receive care, visit a patient or work. Legally, tobacco-use is not a right; it is a privilege that can be restricted when it is detrimental to others. We hope that you will understand and support our tobacco-free initiative.

Sincerely,

NAME
Director of Quality Management
ORGANIZATION
REFERENCES


x Action on Smoking and Health, March 1994.


