

Implementing a Smoke-Free Campus: A Medical Center Initiative

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Abstract A large 2-campus Medical Center in Western New York, along with several other large area hospitals, planned for and simultaneously implemented successful “Smoke-Free Campus” initiatives in November of 2006. This coordinated initiative required that each system plan accordingly for the development and implementation of policies, training of employees, clinicians, support staff and provision of tobacco treatment services (directly or via referral). In order to efficiently and competently inform each of these aspects of a system-wide initiative, accurate information was needed on the prevalence of tobacco use among employees, staff, faculty, and clinicians in each system. A multi-system surveillance initiative was implemented, using a brief survey for all employees of several of the partnering institutions. Summary data from the baseline measures are discussed. Also presented are Lessons Learned from the year-long planning and implementation phases, including details on topics categorized by the specific sub-committees that coordinated each area (e.g.,

Policy and Procedure, Communication, Faculty/Staff/Student Issues, Patient Issues (Inpatient and Outpatient), Tobacco Dependence Treatment and Provider/Staff Training). The effort was effective in instituting system-wide changes in all of the participating hospitals in the greater metropolitan area. A community-wide consortium convened each month for a year, and subcommittees within each hospital allowed planners to break up the initiative into manageable pieces. The extended timeline of 1 year was appropriate for overcoming fears, biases, and barriers which then enabled “buy-in” and support from leadership as well as employees.

Keywords Smoke-free campus · Smoke-free initiative · Organizational change · Environmental health

Introduction

There is a nationwide trend among hospitals and health care facilities to embrace a smoke-free campus policy. The Mayo Clinic in Rochester, Minnesota was the first health care facility to go completely smoke-free in 1987. Subsequently, hospitals in the Midwest began to follow suit in the 1990s. In order to promote healthy individual behavior as well as to eliminate exposure to second-hand smoke, it is imperative that all hospitals and health care facilities restrict smoking in public areas and provide smoking cessation, education and prevention programs [1, 2]. Although the Joint Commission (TJC- formerly known as the Joint Commission on the Accreditation of Healthcare Organizations), which accredits most US hospitals, enacted a standard that prohibited smoking in hospital buildings in 1992 [3], these standards did not restrict smoking throughout the hospital campuses. However, substantial

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efforts have been made since then to implement smoke and tobacco free campuses in order to reduce the ill effects of smoking.

A systematic review of 26 studies on the effects of smoke free workplaces determined that these initiatives not only protect non-smokers from the dangers of passive smoking, they also encourage smokers to quit or reduce consumption [4]. A national survey of the Joint Commission-accredited hospitals determined that in 9 states, more than 75% hospitals had implemented smoke-free campus policies. Overall, 45% of hospitals in the United States had adopted a smoke-free campus policy and another 15% reported actively pursuing such a policy. Higher proportions of smoke-free campus policies were reported in non-teaching and non-profit hospitals [5].

Cigarette smoking is a significant risk factor for many health conditions among smokers as well as non-smokers. The total public and private health care cost due to smoking is about \$193 billion, which includes direct health-care expenditures and productivity losses [6]. The annual cost from second hand smoke exposure is \$4.98 billion [7]. The adverse health effects from cigarette smoking account for an estimated 443,000 deaths, or nearly 1 of every 5 deaths, each year in the United States [6, 8]. More deaths are caused each year by tobacco use than by all deaths from human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined [6, 9]. The Centers for Disease Control and Prevention estimates that secondhand smoke exposure causes approximately 3,400 lung cancer deaths and 46,000 heart disease deaths annually among adult nonsmokers in the United States [10]. More than 126 million nonsmoking Americans continue to be exposed to secondhand smoke in homes, vehicles, workplaces, and public places [10]. Most exposure to tobacco smoke occurs in homes and workplaces. Productivity losses caused by smoking are about \$97 billion. In New York State, the annual health care costs directly caused by smoking equal \$8.17 billion and productivity losses are \$6.02 billion [11]. The analysis of 2008 current smoking prevalence found that New Yorkers had a prevalence rate of 16.8% [12] indicating that New York has not met the Healthy People 2010 [13] objective (27-1a) to reduce cigarette smoking by adults to 12% or less.

Different approaches have been used in an effort to implement tobacco-free campuses and to modify smoking-related policies on health care facilities. In 2005, the state of Arkansas passed legislation prohibiting smoking on all medical facility campuses. A pre- and post implementation survey of hospital administrators found more support and less difficulty than anticipated. The actual cost was 10–50% of anticipated cost. This study illustrated the positive role that the state legislature can play in

facilitating broad health related policy change [14]. The New Mexico Medical Review Association (NMMRA) had engaged hospitals in the state as part of the Tobacco Use Prevention and Control (TUPAC) Program to implement tobacco-free campuses. Periodic surveys were conducted to assess the status of their smoking policies. The most recent survey conducted by NMMRA in the spring of 2008 revealed that 25 of the 41 acute care and critical access hospitals in New Mexico have fully implemented a smoke-free campus and eleven were in various planning stages [15]. The American Nonsmokers' Rights Foundation reported on July 05, 2010 that four national hospitals, clinics, insurers, and health service companies had adopted 100% smoke-free policies nationwide which extended to all their respective facilities, campuses, and office buildings. In addition, there were more than 2,417 local and/or state hospitals, healthcare systems, and clinics that have adopted 100% smoke-free campus grounds policies [16].

This paper presents the methods used to fully implement a smoke-free campus initiative by one Medical Center in the context of a larger initiative involving several local hospitals. It is inconsistent with the mission of the Medical Center to continue to allow smoking on its campus. Therefore, the goal was to ensure the campus would establish effective smoke-free policies, in tandem with other health systems that were motivated to also participate in a collaborative community-wide health promotion initiative.

Stakeholders

A community-wide initiative to make all hospital campuses in the metropolitan area smoke-free was established via a community-wide committee (Community Task Force) in concurrence with the various initiatives and steering committees that were organized at the level of each of the participating hospital systems. The Community Task Force, which met regularly to provide further oversight and development of the smoke-free initiative, included four area hospitals (representing three larger healthcare systems), health systems and hospitals from surrounding areas (including rural settings), a county-wide Medical Society, a regional state-funded tobacco cessation center, and representatives from several Health Departments in the relevant counties. Strategies discussed and implemented by this larger group, certain decisions (such as a final timeline for all campuses to implement policy changes), and key stakeholders were all influential in the development of actions tailored specifically for each of the individual campuses.

At the largest health care and hospital system in the area (representing 2 of the 4 local hospital campus settings), a 30-member Steering Committee spearheaded the smoke-

free campus initiative reported in this paper. Members were from departments throughout the Medical Center (and affiliated settings). The Steering Committee included key personnel from leadership, medical directors, health and wellness staff, public relations, security and experts in tobacco control. The role of this committee was to research, plan, advise and recommend steps in the implementation process.

Methods

Prior to the first meeting, some of the members from the Steering Committee attended a seminar in a similar urban community in Western New York (where seven local hospitals implemented concurrent smoke-free campus initiatives). The members had an opportunity to consult with national experts involved with previous multi-hospital initiatives, who shared their experiences and expertise, in order to gain better insights of the processes involved. Subsequently, one of these experts was invited to consult with the Community Task Force, which helped inform strategies for planning and implementation.

In order to maximize public relations opportunities to highlight the initiative, it was decided that the roll out date for the smoke-free policy coincide with American Cancer Society's "Great American Smoke Out" on November 16th, 2006. The Steering Committee met monthly (occasionally twice per month) from November 2005 to April 2007. A timeline, consonant with the Community Task Force timeline for all participating hospitals, was drafted to progressively implement the recommended strategies and activities to increase awareness, prepare resources, provide education and training, and encourage and aid smokers to quit (Fig. 1). A survey was administered to inform all employees about the initiative as well as to obtain feedback.

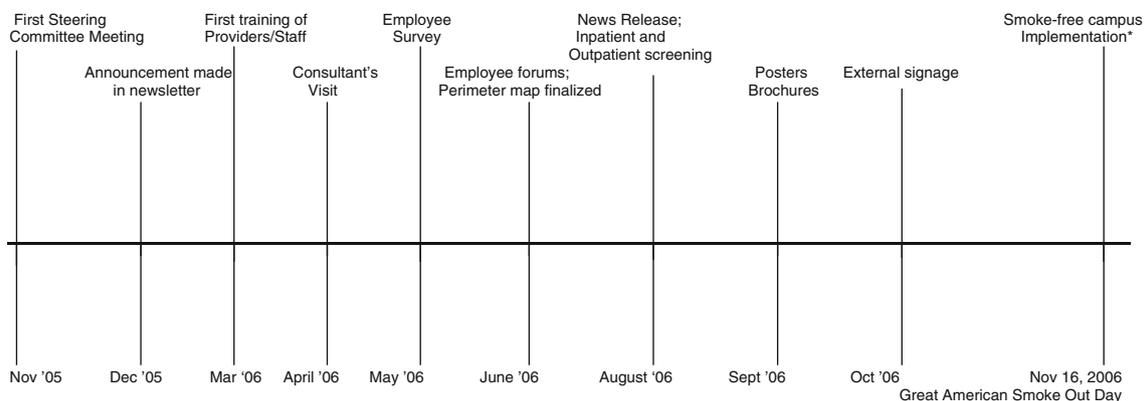
A number of issues were raised and discussed, some of which necessitated the creation of sub-committees. Figure 2 illustrates the distribution of the Steering Committee and sub-committees involved in this smoke-free initiative.

Sub-committees were formed to resolve issues and strategies that needed more intensive discussions. The sub-committees focused on the following issues: policy and procedure, communications, faculty/staff/student issues, patient issues, tobacco dependence treatment, and provider/staff training. These sub-committees met more frequently and regularly reported to the Steering Committee.

Sub-Committees

Policy and Procedure

The task for this sub-committee was to draw a perimeter map that would restrict tobacco use on campus and facilitate discussions with neighborhood residents regarding any concerns. Decisions were needed for possible exceptions to policies affecting the entire Medical Center community, including off-campus office space that was rented (not owned), and areas of on-campus housing designed for international students and staff. The policy regarding tobacco use was discussed to also include a "strong odors" policy into the existing hospital policy. Conversely, a "no spitting" policy was already in place addressing spit tobacco (chewing tobacco, snuff, etc.), which affected the committee's decision to focus on the term, "smoke-free", rather than "tobacco-free". Department Heads were targeted for education regarding progressive discipline as necessary in the context of "performance issues" (as opposed to a specific tobacco use policy) such as excessive break times and personal odor.



*Monthly meetings continued for 6 more months to discuss the effects of implementation and feedback of staff and neighborhood

Fig. 1 Timeline for planning and implementation of smoke-free campus

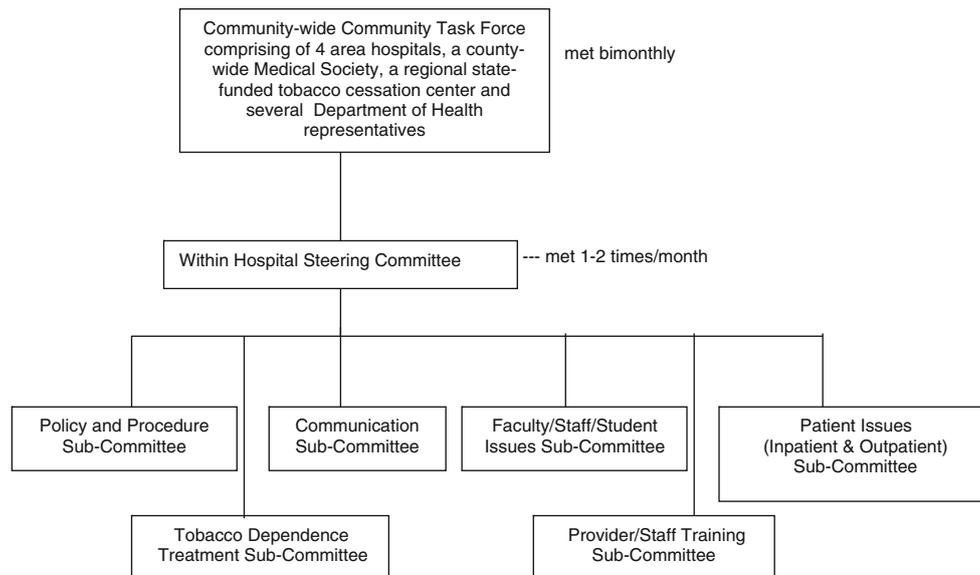


Fig. 2 Community-Wide task force, steering committee and sub-committees involved

Communication

It was the responsibility of the Communications sub-committee (which included Medical Center leadership and public relations staff) to inform and organize employee forums, meetings and support groups as well as to interact with media (internet, television, print, etc.) for publicizing this initiative. An important component was communication of a positive message that “we are not against smokers; we do not want to be ‘smoker-free’ but rather smoke-free”. Vignettes were developed that allowed staff to practice interacting with smokers around the new policy. Timing was very crucial. The timeline and budget were priorities for the Communication team. The team was instrumental in preparing informational brochures, banners and posters and made timely announcements in internal publications, web sites and emails. The smoke-free campus brochure explained the new policy rationale, reinforced enforcement expectations, outlined the campus perimeter with a map and made references to tobacco cessation resources (State Smokers’Quitline and Website, and available Nicotine Replacement Therapy (NRT) on campus). Permanent signs of the new policy were placed at key entrances and throughout the hospital. The new policy and perimeter map were inserted in inpatient pre-admission materials. Letters were sent to alert all vendors and new employees. External signage was placed at strategic locations. All employees received regular smoke-free updates in monthly newsletter with information about smoking cessation classes and Frequently Asked Questions (FAQs). The Medical Center’s website and two regular newsletters were used to disseminate information on the

implementation date, the smoke-free perimeter, where to get NRT, and how to access smoking cessation services.

Faculty/Staff/Student Issues

This sub-committee helped to establish a screening process for faculty, staff and students regarding tobacco use. Health service annual updates indicated that 10% of faculty, staff and students used tobacco. Opportunities were provided for these groups to participate in employee forums and other venues to share their perspectives on issues and concerns regarding this initiative. Moreover, training was provided to faculty, staff, students and volunteers to provide information regarding the “no smoking zone” when approaching smokers. Worksite smoking cessation groups with 25 people participating in the first group were developed. Single-dose NRT was made available for staff, as well as visitors and outpatients (see “Patient Issues”).

Patient Issues

A pre-approved nicotine replacement protocol and an assessment plan were two major tasks for this group. Both inpatients and outpatients were considered separately. For inpatients, the nicotine replacement (NRT) protocol was modeled after the existing alcohol protocol in order to establish clinical guidelines. In the absence of practical guidelines for initial and progressive dosing of NRT, a multidisciplinary team including smoking cessation experts, a pharmacist, and associate medical director drafted an NRT guideline. It established recommended starting doses of NRT, guided increases for patients with

symptoms of inadequate replacement, and guided decreases for those with undesirable side effects. It also guided use and dosing of alternative agents.

A hospital-wide tobacco use screening and treatment procedure for all patients admitted to the hospital and consistent with “5 A’s” (Ask, Advise, Assess, Assist and Arrange) as recommended in the US Public Health Service guidelines [1, 2] had already been established in consultation with the local state-funded tobacco cessation center (one of 19 regional centers throughout the state), and was used to incorporate information about the smoke-free campus initiative. Patients were informed that leaving the grounds to smoke was not allowed even with approval of their providers. Patient misbehavior could lead to an AMA (against medical advice) discharge from the hospital. Training strategies were confirmed for all medical residents, nurse practitioners and hospitalists, and state Smokers’ Quitline and Website referral information was provided for all patients, irrespective of their intention to use this non-smoking period (i.e., their hospital stay) as an opportunity to quit.

For outpatients, a small brochure was created for campus-wide distribution that included an announcement of the new smoke-free policy, a perimeter map outlining the areas where the policy was in effect, and the State cessation resources (as above). Except for one off-campus facility (with an out-patient pharmacy and mental health services), campus security did not want the sole responsibility of monitoring the smoke-free campus initiative. Therefore, enforcement of the new policy was determined to be the responsibility of all employees.

For outpatients, visitors and staff, single dose units of NRT (nicotine lozenges and nicotine patches repackaged for “unit dosing” by the hospital pharmacy) were made available (after review and approval by Medical Center leadership) in 3 locations: a retail convenience store housed in the hospital, the in-house pharmacy, and the hospital’s gift store.

Tobacco Dependence Treatment

This sub-committee played a major role in defining best practices and evidence-based intensive tobacco dependence treatment, adhering closely to US Public Health Service guidelines [1, 2]. Intensive treatments for referred patients (and for employees, see below) were available through the state-funded tobacco cessation center, and including counseling, skill building, and cessation medications. It was decided that every patient would be asked, advised and assisted for smoking cessation, which also helped support the administrative decision to have single dose NRT (see “[Patient Issues](#)”).

For employees, a cost analysis was conducted to identify the price per person for treatment in order to develop a budget. The emphasis was on using NRT as a way of staying comfortable while employees were at work. The goal was to create a feeling that the employee was not externally regulated, but simply needed to comply while on campus. A referral procedure was put in place to the New York State Quitline and Website. In addition to these resources (including the intensive treatment described above), a centrally located and thus easily accessible worksite smoking cessation series of groups (called “Quitting Time”), was created. These groups were facilitated by staff trained in the field of smoking cessation interventions. The first group was instituted 6-months prior to implementation, after it was publically announced that the policy change was forthcoming. Four subsequent groups were conducted, including one approximately 2 months after the smoke-free policy went into effect. A total of 74 employees enrolled in these groups.

Provider/Staff Training

Housed in the largest local hospital system, a state-funded “tobacco cessation center” was available to provide consultation and input throughout the conceptualization, planning, and implementation phases. This center also provided the infrastructure for training physicians and other health-care providers, as well as the health care systems in which they worked, in “office systems changes” for screening of all patients, and “brief office intervention” for their patients who smoke. All materials and procedures were consistent with the US Public Health Service guidelines [1, 2].

Training was available for all physician settings in all local hospitals with either the Tobacco Cessation Center’s standard 1-hour “lunch and learn” format that provided CME and other educational units to clinicians and staff, “grand rounds” format, and other large-group presentation formats. One goal was to establish systems changes and brief intervention strategies at the point-of-care with patients, per the cessation center’s mission. In addition, the Tobacco Cessation Center’s resources, personnel, and training structure allowed for dissemination of information regarding the implementation of the Smoke-Free Campus initiatives. Details were provided not only to clinicians, but to supervisors, staff and employees in order to prepare them for campus-wide implementation. Information included details on the timeline, smoke-free perimeters, resources available, and what to say to staff, patients, and visitors. Two additional training initiatives were implemented for employees, one for all new employees at orientation, and a module for all employees to review annually as part of the hospital system’s annual mandatory educational procedures.

Survey

In order to inform the work of the subcommittees described above, establish prevalence of smoking, and allow employee feedback prior to implementation, a system-wide survey was developed and pretested. The survey was administered to all employees ($n = 15,281$) in the 2 hospital systems affected by the Medical Center policy initiative. The survey process served multiple purposes: it disseminated information (the cover letter informed respondents of the date of implementation, and the need for their feedback regarding personal characteristics), gathered data on smoking prevalence, solicited smokers' intentions to use proposed cessation resources, and allowed individuals to voice concerns, ideas, objections, and support of the Smoke-Free Campus Initiative.

The overall response rate was 20.2%. Over approximately a 3 week period, 3088 surveys were received, of which about 80% responded online and 20% used the hard copy or teleforms. The teleform version, which was used almost exclusively at the smaller hospital campus because of limited online access, was pretested to be nearly identical to the online survey format. Among respondents at the larger hospital campus setting, there were 9,450 full time employees, 1,689 part time staff and 1,842 "time as reported" (TAR) staff. While faculty, administration and clinical professionals at the larger hospital setting tended to respond via the online survey, it was observed that registered nurses, technicians, skilled maintenance and service workers tended to use the teleform version.

Table 1 shows the demographics and specific characteristics of those who responded. Males were more likely to be faculty, skilled maintenance and service workers, while females were more likely to be registered nurses and office or clinical personnel. More females (75%) responded compared to males (21%). Almost half the total number of respondents expressed concern, a comment or a suggestion related to their work site going tobacco free (Fig. 3). Of those who replied, most (>70%) were positive/supportive. Assuming that those who did not comment had no concerns or were ambivalent brought the total percentage among those who were either positive or ambivalent to 87%. Qualitatively, there were several common themes through out the comments and suggestions. These included how will it be enforced, keep designated smoking areas, patients/visitors and increased stress, smoker's rights, why not other health risks, health care professionals should be promoting good health, second hand smoke, sneaky smoker workers, offer NRT and loss of staff/productivity.

A total of 1108 (39.5%) of responders were never asked about their smoking status nor did they see their healthcare provider in the last 12 months. Women (63.58%) were more likely than men (49.49%) to have been asked by their

Table 1 Demographics and specific characteristics of survey respondents

Characteristics	Total (%)
Gender	
Male	650 (21%)
Female	2318 (75%)
Not indicated	120 (4.5%)
Work time	
Full time	2604 (84%)
Part time	341 (11%)
As needed/casual	62 (2%)
Shift	
Day shift	2695 (87%)
Evening shift	147 (4.7%)
Night shift	95 (3%)
Multiple shifts	60 (1.94%)
Job category	
Faculty	364 (12.2%)
Registered nurse	522 (17.5%)
Clinical professional	338 (11.4%)
Other nursing services	57 (1.9%)
Technician	295 (9.9%)
Administration	318 (10.7%)
Office and clinical personnel	553 (18.6%)
Other administrative services	345 (11.6%)
Skilled maintenance	41 (1.4%)
Service workers	140 (4.7%)
Contract worker	4 (0.1%)
Smoking status	
Yes	529 (17.13%)
No	2559 (82.87%)
Other tobacco use	
Yes	46 (1.49%)
No	2868 (92.88%)

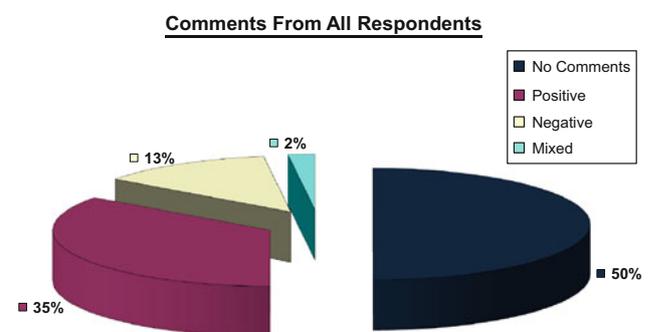


Fig. 3 Survey respondent comments

health care provider if they smoked. Women smokers were more likely than men to have been advised to quit smoking by their health care provider (60% vs. 47%, respectively).

Table 2 Reported characteristics of smokers

Characteristics (<i>n</i> = 529)	Percentage (%)
Number of days/week normally smoke	
All 7 days	66
Between 1 and 6 days	29
Smoked in last 30 days but not as much as 1 day/week	5
Addicted (so smoked within 30 min of awaking)	37
Quantity smoked	
Less than a pack a day	79.2
1 pack or more a day	20.8
Cessation assistance methods	
See their doctor	48
One-on-one counseling	31
Telephone counseling	26
Group classes	31
Nicotine replacement therapy	63
Web site	37
Self help manuals	38
Used the following NRT at least once when trying to quit	
Patch	28
Gum	17
Lozenges	6
Inhaler	6
Spray	2
Zyban/Wellbutrin	22
Other	3

Table 2 reveals the characteristics of smokers who responded to the survey. Smoking prevalence was 17% among employees, similar to the New York State smoking prevalence rate. Fewer than one-third (28.62%) of smokers smoked 6 days or less on a regular basis. Males were more likely to have smoked a cigarette in the last 30 days and were significantly more likely to regularly use other tobacco products (4.68% males vs. 0.71% females). Although the majority of respondents (66.52%) indicated that they were unwilling to make a quit attempt in the next 2 weeks, most smokers indicated that they had tried some form of NRT at least once to assist them to quit.

Ongoing Monitoring

The Security Department, even though committed to the initiative did not want to be “the smoking police”. A non-confrontational approach, wherein each employee was expected to police this initiative. Scripts were written to help contact a smoker not adhering to the policy. Several employees took advantage of the smoking cessation programs that were implemented in tandem with this initiative.

“I continue to be amazed by the smooth transition that I witnessed here...and cannot express the gratitude that I feel for the courage that it took to adopt an unpopular policy and take a stand that has a long term benefit to employees and patients”, (Supervisor of Medical Records, who quit as a result of this smoke-free initiative despite smoking a pack a day for 25 years).

Banning smoking on hospital campus grounds drove smokers to congregate on property adjacent to the university, resulting in a negative environmental impact for university neighbors. Strong complaints and media coverage regarding the inconvenience to the neighbors had the Steering Committee revisit the smoke-free perimeter that was drawn. One year after the policy was adopted, one of the larger hospitals had to formally relax its smoke-free policy and modified the smoke-free perimeter to provide a small area that smokers could have quick and easy access without crossing the street. In addition, two smoking shelters were re-introduced.

Discussion

Smoke-free policies aim to protect the health of the public, and hospitals in particular can use a smoke-free initiative as a “teachable moment” to reduce the prevalence of smoking and its associated ill-effects. Studies indicate that implementation of smoke-free policies has had a mixed response in different health care settings, with policy breaches in the British National Health System hospitals [17] and barriers and compliance issues at the Comprehensive Cancer Center in Spain [18] as well as in Mexico City [19]. Unlike these initiatives, this smoke-free initiative was effective primarily because it had the buy-in from leadership as well as the intricate involvement of key personnel in key departments. In addition, appropriate training and education in tobacco control activities were provided to faculty and staff and smoking cessation programs were offered to employees willing to quit. This, in particular may be beneficial as a previous survey has demonstrated that despite all the smoking restrictions and rigorous policies, smoking is a resistant risk behavior coupled with chemical dependence [20].

Other hospitals have successfully implemented a smoke-free campus policy [21]. To date in the literature, this initiative may be unique in its use of sub-committees for the planning and development of specific strategies, which resulted in more efficient and successful implementation. Overall, the employees attitudes were supportive (87%) of the policy and there was no evidence of any employee quitting, similar to other institutions [22, 23]. Although previous studies have clearly shown that there is a reduction in prevalence of smoking as a result of smoke-free

policy [4, 24], studies have also revealed that hospitalized smoker patients may not totally abstain from smoking [25].

Limitations

The organizers of this smoke-free initiative did not do any proactive program evaluation. It is imperative to evaluate all public health related activities in order to assess the effects and to strengthen accountability [26]. It is also useful to measure the impact of the smoke-free policy on employees, patients and visitors at the 2 hospitals in order to identify any concerns. Considering that smoke-free workplaces are associated with reductions in prevalence of smoking of 3.8% (95% CI 2.8–4.7%) [4], future studies may be designed to evaluate this effect. The initiative was not structured scientifically and as a result one cannot say it was a standardized approach. Thus the method may not be applicable to other geographical areas. Furthermore, off-site clinics were not included. Although more hospitals

have embraced a smoke free policy, there is wide variation in its adoption by state [27].

Lessons Learned and Recommendations

This experience from conceptualization to planning to implementation incorporated “best practices” from the experiences of others. There are a number of lessons learned and recommendations that can be useful to further provide direction for others (Table 3). Although a challenging endeavor, implementing a smoke-free campus has significant public health impact.

Table 3 Lessons learned and recommendations

Lessons learned

- Subcommittees are helpful for designing specific strategies
- Common timeframes and policy implementation day helpful
- Survey was beneficial in understanding smokers needs
- Common learning curve increased cohesion and commitment and allowed for greater idea sharing

Recommended strategies

- Meetings—Committees within each hospital system and joint meetings for community level planning
- Individual timelines—Address specific needs of individual and systems
- Community wide implementation—Common date for all hospitals
- Subcommittees—Most hospitals used topic-related subcommittees
- Inpatient Procedures—Integration of 5 A’s into Electronic Medical Records and intake/discharge processes, NRT on site during stay
- Visitors & Outpatients—Providing single dose NRT for comfort during hospital visits. Policy and Cessation information available to the public
- Clinician Training—New pathways in Electronic Medical Records; Grand Rounds; Office-level PHS Brief Office Advice training
- Signage—Consistent signage posted throughout campuses
- Security—Enforcement responsibilities. Create clear ordinance rules for easy implementation and enforcement by ALL on campus grounds.
- Survey—provides information on baseline smoking prevalence, preferences for treatment, referral, and other resources, and provides the opportunity to express opinions and suggestions—useful to planning and implementation

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