

Report to the
The Commission for Mental Health, Developmental Disabilities and
Substance Abuse Services of the North Carolina
Department of Health and Human Services

Report on the Pilot to Establish a Tobacco Free Environment in
State Operated Healthcare Facilities: Broughton Hospital and
Walter B. Jones ADATC

(Proposed Amendment of 10A NCAC 28C .0201 – State Facility Environment)

February 2011

North Carolina Department of Health and Human Services

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Foreword

The advantages of establishing a tobacco-free environment at Broughton Hospital are self-evident. Smoking harms nearly every organ of the body; causing many diseases and reducing the health of smokers in general. “Cigarette smoking is the leading cause of preventable disease and death in the United States, resulting in approximately 440,000 deaths annually or nearly 1 of every 5 deaths each year in the United States. More deaths are caused each year by tobacco use than by human immunodeficiency virus (HIV), illegal drug use, alcohol use, motor vehicle injuries, suicides, and murders combined.” Approximately, 45.1 million U.S. adults—more than one in five Americans—are current cigarette smokers. Smoking is a major cause of cancer and cardiovascular and respiratory diseases. For each person who dies from a smoking-related disease, an estimated 20 more are living with a smoking-attributable illness. (Center for Disease Control, 2009)

Smoking causes 87 percent of [lung cancer](#) deaths and is responsible for most cancers of the [larynx](#), [oral cavity](#) and [pharynx](#), [esophagus](#), and [bladder](#). Secondhand smoke is responsible for an estimated 3,000 lung cancer deaths among U.S. nonsmokers each year. Tobacco smoke contains thousands of chemical agents, including over 60 substances that are known to cause cancer. The risk of developing smoking-related cancers, as well as noncancerous diseases, increases with total lifetime exposure to cigarette smoke. (National Cancer Institute, 2009)

Cigarette [smoking](#) and other forms of tobacco addiction are very common among patients with mental disorders. For instance, in the United States, 25 to 30 percent of people smoke, but 75 to 90 percent of those with schizophrenia smoke, according to the National Institute of Mental Health (NIMH). (Your Total Health, 2006)

Cigarette smoking is a specific issue for those with severe psychiatric illness, who smoke at rates much higher than the general population. It has been reported that smoking rates are 2-4 times higher among people with psychiatric disorders and substance use disorders. (Smoking Cessation Leadership, 2009) When seeking mental health treatment, heavy smokers report substantially poorer well-being, greater symptom burden, and more functional disability compared to nonsmokers.

Patients with mental disorders generally have a much harder time quitting smoking than those without mental health conditions. “The symptoms of nicotine withdrawal often mimic the symptoms of many disorders.” (Your Total Health, 2006) Patients are already in a secure and supportive environment that is ideal for smoking cessation which will enable them to stop smoking. (Dorothea Dix Hospital, 2002)

There are many benefits of establishing a smoke-free workplace. It helps create a safer, healthier workplace for both the smokers who are no longer smoking but also for

the non-smokers affected by second-hand smoke. Smokers who want to quit had more of a reason to do so with a clear policy about smoking at work.

A smoke-free environment creates a safer, healthier workplace at Broughton Hospital. *Implementing a clear plan at Broughton Hospital* to lower employees' exposure to secondhand smoke shows the hospital cares. Employees may be less likely to miss work due to smoking-related illnesses.

Smoking cessation has major and immediate health benefits for men and women of all ages. Quitting smoking decreases the risk of lung and other cancers, heart attack, stroke, and chronic lung disease. The earlier a person quits, the greater the health benefit.

By encouraging tobacco cessation, Broughton Hospital seeks to improve the health of all staff, patients and visitors while positioning Broughton Hospital as a model for other agencies and organizations that are planning similar programs and policies aimed at promoting healthy, tobacco-free behaviors.

Broughton Hospital Leadership Team

Foreword

The Walter B. Jones ADATC has been a leader in preventive measures to help improve our patient's health over the years. Our willingness to volunteer for becoming a beta site for the first North Carolina ADATC tobacco free campus is the final stage of a long and deliberate struggle that began about 20 years ago. Based on what were cutting edge research findings on second-hand smoke at the time, we were one of the first state facility campuses across the state that was successful in eliminating smoking indoors. Ironically, resistance was much more evident from the staff than the patient population at the time. Hence, we knew that a campus wide tobacco free environment would be a challenge.

Ironically, our indoor no-smoking mandate paid unrecognized dividends when we moved to the next stage of a total tobacco free campus. Our overall staff smoking population numbers had reduced markedly over the years; probably due to some retirements along with a changing internal culture shift towards a healthier work environment (not to mention that the ongoing employee smokers had to endure the inconvenience of finding ways to smoke within their assigned duty roles and time frames). These now 'shaped' employees, who were comparatively few in number, actually embraced the campus-wide tobacco free concept without much overt resistance.

Patient wise, we have had an overwhelming neutral to positive response to our attempts at becoming a tobacco free campus. Most of our patients eventually surprise themselves as to how easy the transition to nicotine replacement therapy (NRT) is, and how to appreciate the defeat (albeit temporary) of a long standing and recalcitrant addiction. Most also enjoy day-to-day experiences much more, e.g., the enhanced taste of good food, having no lingering smoke smells in their clothes and having extra money to spend on other healthier endeavors.

A minority of patients have and continue to resist the notion of giving up tobacco; openly and/or passively. Virtually every patient in this category will admit that they were aware of our tobacco free policy prior to arriving....they will sometimes, however, vigorously resist giving up their cigarettes/lighters and an even smaller percentage will attempt to smuggle in tobacco products. We recognized a palpable increase in contraband and have focused on an improved campus wide vigilance and policy/procedure process that has benefited the facility and the patients.

My personal perspective is predominantly positive and built on a combination of pride for our mostly successful attempt along with the satisfaction of knowing that we are planting the seeds of a possible tobacco free lifestyle. These feelings are tempered with a subtle frustration that comes with the requirements of a more intense campus-wide staff workload, sometimes ending in futile outcomes with a minority of our patients. In hind-site, if we had the choice, would we do some things differently? Absolutely. Knowing our after-the-fact outcomes, would we do it again? Absolutely!

Gary G. Leonhardt, MD, DFAPA

Clinical Director

WBJ ADATC

Introduction and Commission Background

Individuals with mental illness die, on average, 25 years prematurely. During State Fiscal Year 2009-2010, a total of 10,293 individuals were served in State Operated Psychiatric Hospitals and Alcohol and Drug Treatment Centers (ADATC). Of that total, 6,280 to 7,720 (62%-75%) were individuals who had tobacco dependence¹. Given that tobacco use is the leading preventable cause of death in individuals with psychiatric or addictive disorders and that tobacco use adversely affects psychiatric and substance use treatment, the Division of State Operated Healthcare Facilities has determined that it is critical to address this public health crisis.

On July 9, 2008, the Rules Committee of The Commission for Mental Health, Developmental Disabilities and Substance Abuse Services (The Commission) considered a request to amend Rule 10A NCAC 28C .0201 "Proposed Amendment of State Facility Environment". This proposed amendment would eliminate the requirement for State Operated Healthcare Facilities to provide areas accessible to clients who wish to smoke tobacco. In order to obtain more information on the effect of a tobacco free campus in the state operated facilities, The Rules Committee approved a pilot of a tobacco free campus in a state operated healthcare facility so that the Committee would have more information before making a final decision on the proposed amendment to the rule.

On August 21st, 2008, The Commission approved a pilot to establish a tobacco free environment among staff and patients at a State Operated Facility. In early 2009, a plan to implement a tobacco free environment at Broughton Hospital was submitted to MH Commission members and subsequently approved. Because the State Operated Alcohol and Drug Treatment Centers have unique characteristics compared to the state psychiatric hospitals, on August 20, 2009, The Commission approved a pilot to establish a tobacco free environment among staff and patients at Walter B Jones Alcohol and Drug Treatment Center (ADATC). This subsequent pilot allowed for additional information on the implementation of a tobacco free environment in an ADATC to be obtained.

The approval of the pilot required the Division of State Operated Healthcare Facilities to report the results of the pilots conducted at Broughton Hospital and Walter B Jones ADATC to The Commission.

Pilots were subsequently conducted at Broughton Hospital and Walter B Jones ADATC with implementation dates of October 1, 2009 and April 1, 2010, respectively. Implementation methodology and strategies are outlined in Appendix A.

In addition, measurement of outcomes was planned, and data was aggregated both pre and post implementation of a tobacco free environment.

Findings and outcomes from the pilots are reported below.

¹ Based on national and state prevalence rates in MI and SA populations.

Findings

Broughton Hospital

Behavioral Indicators:

- Implementation of a tobacco free environment had no effect on the average monthly and quarterly episodes of seclusion, restraint, and assault.
- There was no effect on the monthly or quarterly pattern of episodes of elopement.
- Implementation of a tobacco free environment had no effect on reported instances of contraband.

Patient Perception and Impact:

- Sixty-one percent (61%) of patients reported that they use tobacco.
- Thirty percent (30%) of smoking patients reported that they are interested in quitting.
- Sixty-six (66%) of smoking patients reported prior attempts to quit smoking.
- Prior to the implementation of a tobacco free environment, 42% of patients reported that they would like a tobacco free environment. Following the implementation of a tobacco free environment, 53% of patients reported that they liked having a tobacco free environment.
- Following implementation of a tobacco free environment, 45% of patients responded that they thought it was a positive change for patients.
- Prior to the implementation of a tobacco free environment, forty-four percent (44%) of patients thought it was fair to restrict smoking and following the implementation, 45% thought it was fair to restrict smoking.

Employee Perception and Impact:

- Fifty-six percent (56%) supported implementation of a smoke free environment.
- Fifty-five percent (55%) of smoking employees reported stopping use of tobacco for at least some period of time following the implementation of a smoke free environment.
- Prior to implementation of a smoke free environment, 10% of employees stated that tobacco smoke interfered with their work performance.
- Compared to the pre-implementation period, written warnings to staff decreased by 59%.
- There was a 100% reduction in staff suspensions and 75% reduction in dismissals by compared to the pre-implementation period.

Financial Impact:

- There was no financial impact from the tobacco free pilot.

Walter B Jones ADATC (WBJ ADATC)

Behavioral Indicators

- There was no change in the pattern of all assaults or injuries during the implementation and monitoring period.
- There was a sustained trend and reduction of verbal assaults, declining from an average of 7.66 assaults per month in the 3 months prior to the tobacco free start date to 3.16 assaults per month in the 6 months after the tobacco free start date.
- The implementation of a tobacco free campus had no effect on the use of restraints.
- Reports of contraband increased during the month of implementation. Following an emphasis on facility policy and procedures, instances of contraband fell to below average rates.
- The implementation of a tobacco free campus had no effect on elopements.

Patient Perceptions and Impact

- More than 75% of the patients at WBJ ADATC use tobacco, and forty percent of WBJ ADATC smoking patients stated that their tobacco use caused financial hardships.
- Most of the tobacco users smoked for over 15 years, and fifty five percent have tried to quit using tobacco in their lifetime.
- The percent of smoking patients who wanted to quit using tobacco rose from 41% to 50%.
- The percent of patients who understood the benefits of a tobacco free campus rose from 55% prior to the pilot to 81.25% at the end of the pilot monitoring period.
- The percent of patients who approved of a tobacco free campus rose from 12.82% prior to the pilot to 31.25% at the end of the pilot monitoring period, a 177% increase.
- The percent of patients who viewed the tobacco free environment as positive for patients rose from 20% prior to the pilot to 31.5% at the end of monitoring.
- The percent of patients who believe that the tobacco free policy is beneficial for staff rose from 27.5% prior to the pilot to 56.25% at the end of the pilot monitoring period.
- Use of facility counseling during the period of inpatient treatment was better received by patients than use of Quitline NC counseling. Procedures were adjusted to allow connection of consumers to Quitline NC at discharge.
- Based on NC TOPPS data, at WBJ ADATC, according to consumers served,
 - a. 80% of individuals were helped in decreasing tobacco use vs. 59% (statewide) and 42% at Julian F Keith ADATC (JFK ADATC).
 - b. 88% recognized need for help in decreasing tobacco use during admission vs 77% (statewide) and 69% (JFK ADATC).
 - c. Only 8% that thought they needed help in decreasing tobacco use were not helped vs. 18% (statewide) and 26% (JFK ADATC) that were not helped in the other sites.

Employee Perceptions and Impact

- There was a 17% decrease in sick leave by employees after implementation of a tobacco free campus.
- Two thirds of the employees were frequently or occasionally affected by secondhand smoke at WBJ before the Tobacco Free Policy and 90 days after the policy was implemented, two thirds of the employees were seldom or never affected by secondhand smoke.
- Before the policy was implemented, 10% stated that secondhand smoke affected their work performance. After implementation no one stated that secondhand smoke affected their work.
- Seventy-six percent (76%) of staff supported the Tobacco Free Campus Policy before implementation and 89% supported the Tobacco Free Campus Policy at the end of the monitoring period.

Financial Impact

- Costs of Nicotine Replacement Therapy increased by about \$1,100/month. Through management of the overall pharmacy system budget, there was no facility impact.

DISCUSSION AND CONCLUSIONS

Recent Literature

A meta-analysis of smoking cessation interventions with individuals in substance abuse treatment was reported in 2004. This study showed that smoking cessation interventions provided during addictions treatment were associated with a 25% increased likelihood of long-term abstinence from alcohol and illicit drugs. The findings suggested that smoking cessation interventions may help with long-term sobriety even if long-term smoking cessation is not achieved. (JJ Prochaska et al 2004)

A report published by NASMHPD Research Institute (NRI) in January 2009 titled “Smoking Policies and Practices in State Psychiatric Facilities: Survey Results from 2008”, discussed earlier literature “myths” that indicate non smoking facilities experienced less conflict. These survey results revealed that the opposite was true, and reported a two to three fold increase of conflict, coercion, complaints, and elopements in a smoking environment when compared to a smoke free environment. In addition, 49% of state psychiatric facilities that responded to the survey were non-smoking, and 52% of these facilities had converted to non-smoking in the past 2 years. (G. M. Lane, Jr., G. Ortiz, J. Parks, L. Schacht and M.B. Werdel, 2009).

A 2006 technical report on smoking policy and treatment in state operated psychiatric facilities has reviewed the effects of smoking, including its effect on negative outcomes for mental health treatment, the treatment milieu, overall wellness, and ultimately, recovery. (J Parks and P Jewell 2006)

Patient Behavioral Outcomes

Broughton Hospital reviewed patient behavioral outcome data for time-frames during the Pre implementation period [July –September 2009], during the implementation period [October-December 2009], and Post implementation [January-March 2010 and April-June 2010]. The behavioral outcome data included rates calculated by the number of hours clients spent in seclusion or restraints for every 1000 inpatient hours, percent of client behaviors resulting in assaults, elopements, or resulting in finding tobacco contraband. The data did not reveal a significant pattern of positive or negative behavioral outcome rates. The cumulative data results show no significant effects on consumers treated at Broughton Hospital during the pilot monitoring period.

Walter B Jones also reviewed patient behavioral outcomes data for time-frames prior to implementation of a tobacco free environment [January-March 2010], and after implementation of a tobacco free environment [April-June, 2010 and July-August, 2010]. The implementation of a tobacco free campus had no effect on elopements, all assaults, injuries, or the use of restraints. Reports of contraband increased during the month of implementation. Following an emphasis on facility policy and procedures, instances of contraband fell to below average rates, resulting in an overall strengthened environment for treatment. There was a sustained trend and reduction in verbal assaults consistent with reports from other behavioral health facilities that have implemented tobacco free environments.

Patient Survey Results

Patient satisfaction rose when comparing pre implementation attitudes to post implementation. More than half of the patients responding to the survey at Broughton Hospital (53%) responded that they liked having a tobacco free environment. This was significantly higher than that reported in the pre implementation survey results (42%). There was a small increase in patients who thought it was fair to restrict smoking when comparing pre implementation to post implementation (44% vs. 45%). Consistent with national literature, 61% of patients reported using tobacco.

Consistent with national literature, more than 75% of the patients surveyed at WBJ ADATC use tobacco. Measures of satisfaction and/or approval of a tobacco free environment rose significantly when compared to the pre-implementation period. For example, the percent of patients who approved of a tobacco free campus rose from 12.82% prior to the pilot to 31.25% at the end of the pilot monitoring period, a 177% increase.

In an effort to promote continuity and consistency of treatment for patients, a partnership with the Division of Public Health (DPH) allowed for the use of Quitline NC counseling that could be initiated as an inpatient and continued post discharge. Use of inpatient facility counseling during the period of inpatient treatment was better received by patients than use of Quitline NC counseling. The program was modified to accommodate this preference and connect consumers to Quitline NC at discharge.

Employee Disciplinary Action Violations Related to Leave and Call Outs

Additionally, employee outcome measures were reviewed related to disciplinary action violations as outlined in the Broughton Hospital leave and call in policy. The outcome measure timeframes were during the following intervals: Pre implementation period [July –September 2009], during implementation [October-December 2009], and Post implementation [January-March 2010 and April-June 2010]. The data reviewed for this specific time period included the number of personnel actions taken in the form of written warnings, suspensions, and included actions up to employee dismissals. Although the comparative information revealed a desirable trend, there is no information to suggest that the positive trend was related to Broughton Hospital becoming a tobacco free facility.

Walter B Jones ADATC measured employee outcomes by comparing sick leave prior to and after the implementation of a tobacco free campus. There was a 17% decrease in sick leave by employees after implementation of a tobacco free campus.

Pre and Post Tobacco Free Campus Implementation Employee Survey Results

Employees at Broughton Hospital had the opportunity to participate in a post tobacco ban survey that included their perceptions and questions on length of smoking abstinence. Fifty-six percent (56%) of respondents supported implementation of a smoke free environment. Fifty-five percent (55%) of smoking employees reported stopping use of tobacco for at least some period of time following the implementation of a smoke free environment. Prior to implementation of a smoke free environment, 10% of employees stated that tobacco smoke interfered with their work performance.

Sixty-eight (68) respondents (24.29%) answered that they currently smoke cigarettes and 44 respondents stated that they attempted to quit using tobacco products when Broughton Hospital implemented a tobacco free campus in October 2009. When asked the length of tobacco abstinence Post Implementation, the results varied. Fifty-six (56) employees (55% of smoking employees) quit smoking for at least some period of time following the establishment of a tobacco free campus. Twenty-three respondents (9.09%) quit for 1 day to 3 months, eight respondents (3.16%) quit for 4 to 6 months, and 25 (9.88%) respondents quit for 6 months to 1 year. Those that never used tobacco was 152 respondents (60.08%) and those that never stopped using tobacco equaled 45 respondents.

Employees at Walter B Jones were also asked for their perceptions of a tobacco free worksite. The overwhelming majority of respondents supported having a tobacco free campus both before and after implementation. Seventy-six percent (76%) of staff supported the Tobacco Free Campus Policy before implementation and 89% supported the Tobacco Free Campus Policy at the end of the monitoring period. Two thirds of the employees were frequently or occasionally affected by secondhand smoke at WBJ before the Tobacco Free Policy and 90 days after the policy was implemented, two thirds of the employees were seldom or never affected by secondhand smoke. In addition, before the policy was implemented, 10% stated that secondhand smoke affected their work performance. After implementation no one stated that secondhand smoke affected their work.

Post-pilot monitoring data

Data on the outcomes of clients, as determined by the clients, was also retrieved through NC TOPPS for the period of October, 2010-December, 2010 (7 to 9 months post implementation). At admission, clients were asked if they needed help in decreasing tobacco use. At discharge, clients were asked if they were helped in decreasing tobacco use. Through this database, the effectiveness of the tobacco free pilot can be compared to Julian F Keith ADATC (JFK ADATC), a state operated ADATC that allows use of tobacco, and to Statewide ADATCs.

In the tobacco free pilot site:

- 80% of individuals were helped in decreasing tobacco use vs. 59% (statewide) and 42% (JFK ADATC)
- 88% identified the need for help in decreasing tobacco use during admission vs 77% (statewide) and 69% (JFK ADATC)
- Only 8% that thought they needed help in decreasing tobacco use were not helped vs. 18% (statewide) and 26% (JFK ADATC) that were not helped in the other sites

The tobacco free site (Walter B Jones ADATC) was more effective than statewide ADATCs and more effective than JFK ADATC in assisting individuals in identifying that they needed help in decreasing tobacco use and WBJ ADATC was more effective in helping individuals decrease use of tobacco.

Conclusions

There are many factors involved in the decision for a facility to establish a tobacco free environment. Tobacco use adversely affects psychiatric and substance use treatment, and in addition to interfering with treatment, tobacco kills. It is the leading contributor of disease and premature death in this population. Smoking promotes coercion and violence in facilities among patients and between patients and staff. Smoking interferes with medication effects, and it occupies a surprising amount of staff and patient time that could be better used for more productive activities. Between smoking breaks, consumers may cycle through withdrawal and worsened mental health symptoms only to get to the next smoking break and start the cycle over again. When, what, and how much to smoke often become the focus of the consumer. It is a poor substitute for practice in decision-making and relationship building, and it is inappropriate as a means to manage behavior. While smoking is sometimes viewed as the one choice that consumers get to make while inpatients, it is critical to realize that addiction is not a choice. Individuals admitted to state operated hospitals and ADATCs are in a secure and supportive environment that is ideal for treating addictions, including tobacco.

The pilots conducted at Broughton Hospital and Walter B Jones ADATC have demonstrated that a tobacco free environment can be implemented in state operated facilities in NC in a safe, therapeutic, and effective manner that supports patients and staff. These results are consistent with that reported in the literature. In addition, these pilots are consistent with a national trend toward a holistic health framework that addresses individuals' overall health status, including smoking.

Appendix A

Methodology and Implementation Strategies

Early in the planning process, Broughton Hospital formed a multi-disciplinary committee to develop a plan for implementation of a tobacco free environment. Planning that had been conducted during and after the pilot at Dorothea Dix Hospital was used as a foundation upon which Broughton Hospital could build a plan for implementation. Early implementation work done at Broughton was also used in the planning for implementation at Walter B Jones ADATC. Plans included as key elements:

- Background and Rationale
- Financial Assessment
- Implementation Timeline
- Patient Tobacco Cessation Treatment Plan
- Employee Tobacco Cessation Plan
- Patient Survey
- Employee Survey
- Employee Resources
- Assessment of Outcomes

In addition, there were key implementation strategies used at both Broughton Hospital and Walter B Jones ADATC. Strategies included using a broad group of disciplines in planning for implementation and communicating with key stakeholders, particularly with individuals that were already in inpatient treatment programs and their families. In addition, input was solicited from patients through the Pre Implementation survey and patient council. Communications with external stakeholders, including sheriffs, were planned for and implemented.

Other implementation strategies included:

- Communication of policies early in the admission process
- Training staff as Facilitators through the “Quit Now” program (provided through DPH Tobacco Prevention Program)
- Professional staff education in nicotine replacement therapy and other medications used in smoking cessation treatment programs (provided through DPH Tobacco Prevention Program)
- Development of nicotine assessment tools
- Formulation of a partnership with DPH to use the Quitline NC program in program delivery in Walter B Jones ADATC.

- Development of interventions for delivery in multiple settings including:
 - One to one sessions with individual providers
 - Settings with facilitation by Nursing
 - Programming in the psychosocial rehabilitation setting

Strategic concepts were used in guiding program delivery and implementation .These included:

- Offering treatment to all smokers.
- Making participation in programming voluntary
- Individualization of treatment decisions based on consumer preferences

Appendix B

Outcomes Measurements

The following data was collected prior to and following the implementation of a tobacco free environment:

Patients:

Behavioral Outcomes²

- Seclusion
- Restraint
- Assaults
- Elopements
- Contraband

Perceptions³

- Pre-Implementation
- Post Implementation

Employees:

- Staff call-outs
- Rates of completion of smoking cessation program
- Rates of smoking cessation

Perceptions

- Pre-Implementation
- Post Implementation

Financial Impact

² Definitions and methodology of measurement of behavioral outcomes was based on existing procedures and definitions at Broughton Hospital and WBJ ADATC. Data gathered by a specific facility should be used to assess outcomes only for that facility and not for comparison between facilities.

³ Patient and staff perceptions were solicited through administration of a pre and post implementation survey. Post implementation survey results in the ADATC were completed by individuals admitted after the implementation date of the tobacco free campus.

Appendix C

Outcomes Measures - Broughton Hospital

Behavioral Outcomes

Pre and Post Implementation: Aggregated data to identified outcome measures (i.e. behavioral and perceptual)

Patient Post Implementation Outcome measures

Rate From Patient Behavioral Outcomes

July-September 2009

Pre Implementation	Jul Rate	Jul Count	Aug Rate	Aug Count	Sep Rate	Sep Count	Qtr Rate	Qtr Count	Qtr. Ct. Avg.
Seclusion	0.23	24	0.11	34	0.12	30	0.15	88	29
Restraint	0.32	47	0.27	41	0.39	42	0.33	114	43
Assaults		155		168		142	19.22	482	155
Eloperments	0.13	1	0.13	1	0	0	0.09	2	1
Contraband	0	0	0	0	0	0	0.00	0	0

October-December 2009

During Ban	Oct Rate	Oct Count	Nov Rate	Nov Count	Dec Rate	Dec Count	Qtr Rate	Qtr Count	Qtr. Ct. Avg.
Seclusion	0.19	43	0.09	26	0.11	31	0.13	100	33
Restraint	0.36	59	0.28	40	0.26	43	0.30	142	47
Assaults	23.26	205	18.75	141	16.6	125	19.54	471	157
Eloperments	0.25	2	0.4	3	0.13	1	0.26	6	2
Contraband	0	0	0	0	0	0	0.00	0	0

January-March 2010

Post Implementation	Jan Rate	Jan Count	Feb Rate	Feb Count	Mar Rate	Mar Count	Qtr Rate	Qtr Count	Qtr. Ct. Avg.
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Seclusion	0.16	38	0.14	39	0.21	53	0.17	130	43
Restraint	0.32	49	0.5	64	0.36	60	0.39	173	58
Assaults	18.45	138	22.84	157	23.42	179	21.57	474	158
Eloperments	0	0	0.15	1	0.13	1	0.09	2	1
Contraband	1	0	1	0	0	0	0.67	2	0

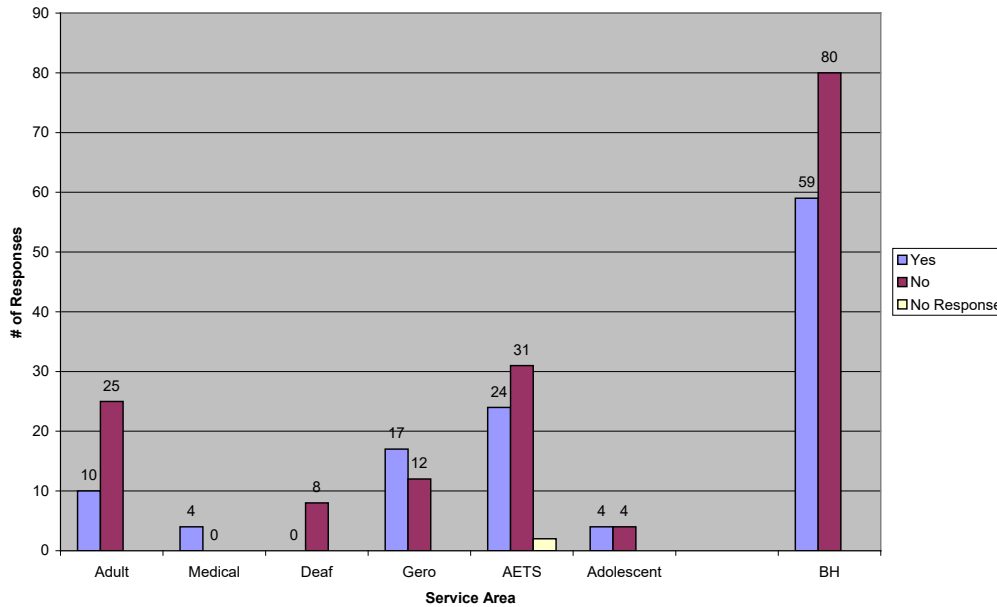
April-June 2010

Post Implementation	Apr Rate	Apr Count	May Rate	May Count	Jun Rate	Jun Count	Qtr Rate	Qtr Count	Qtr. Ct. Avg.
Seclusion	0.1	22	0.08	21	0.05	12	0.08	55	18
Restraint	0.31	44	0.26	32	0.09	10	0.22	86	29
Assaults	21.93	162	19.53	143	15.17	111	18.76	416	139
Eloperments	0	0	0.4	3	0.55	4	0.32	7	2
Contraband	0	0	0	0	0	0	0.00	0	0

There were no patterns or trends identified in the number of seclusions, restraints, and assaults. Implementation of a tobacco free environment had no effect on the average monthly and quarterly episodes of seclusion, restraint, and assault. There was no effect on the monthly or quarterly pattern of episodes of elopement. Implementation of a tobacco free environment had no effect on reported instances of contraband.

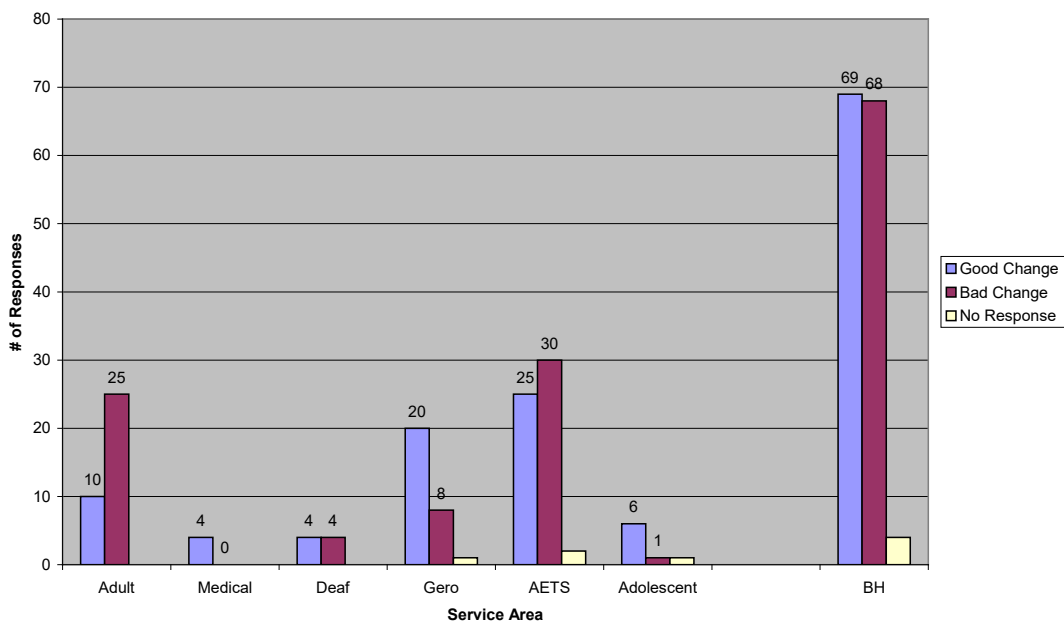
Broughton Hospital Patient Survey Tobacco Free Facility Pre Implementation Survey Results

Would you like to have a tobacco-free hospital environment?



Forty-two percent of surveyed patients reported that they would like to have a tobacco-free hospital environment.

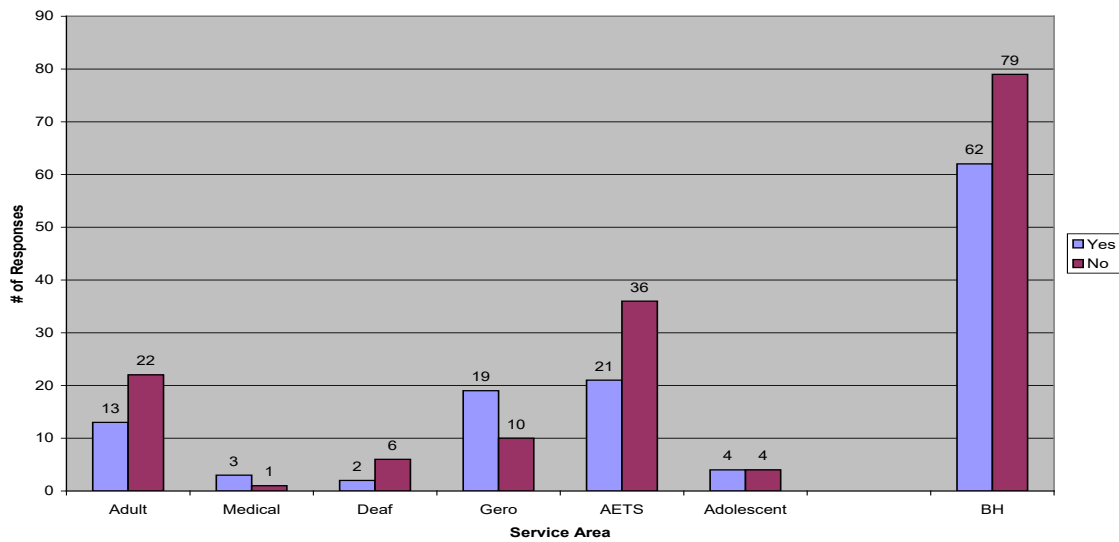
Do you think it will be a good or bad change for Broughton to become a tobacco free hospital for staff, patients, or visitors?



Fifty percent (50%) of respondents reported that they thought it would be a good change for Broughton to become a tobacco free hospital.

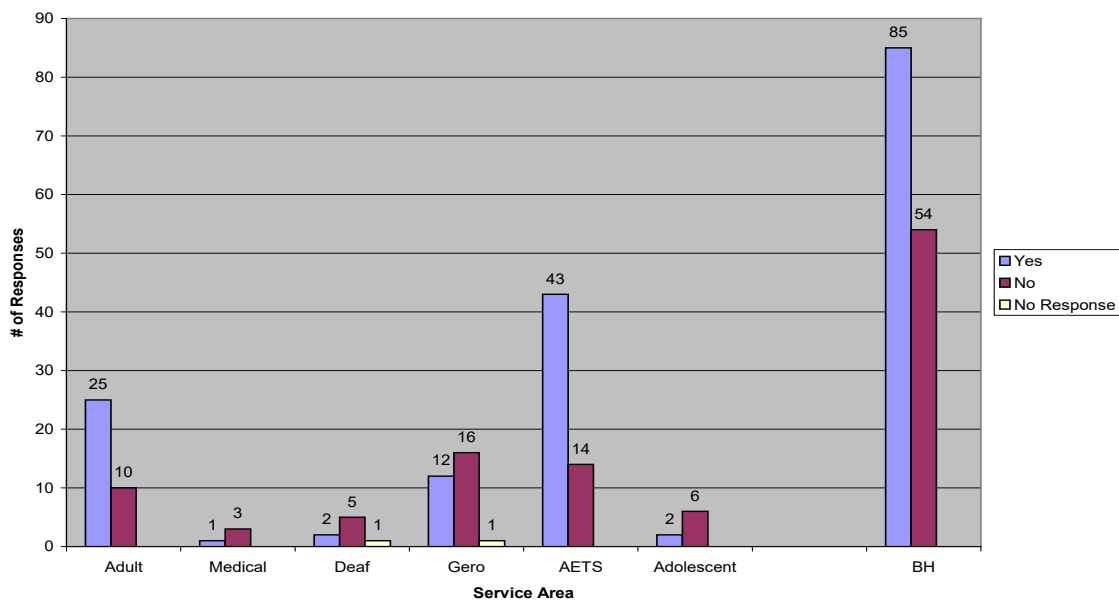
**Broughton Hospital Patient Survey
Tobacco Free Facility Pre Implementation
Survey Results**

Do you think it is fair to restrict patient's tobacco use?



Forty-four percent (44%) of patients thought it was fair to restrict patient's tobacco use.

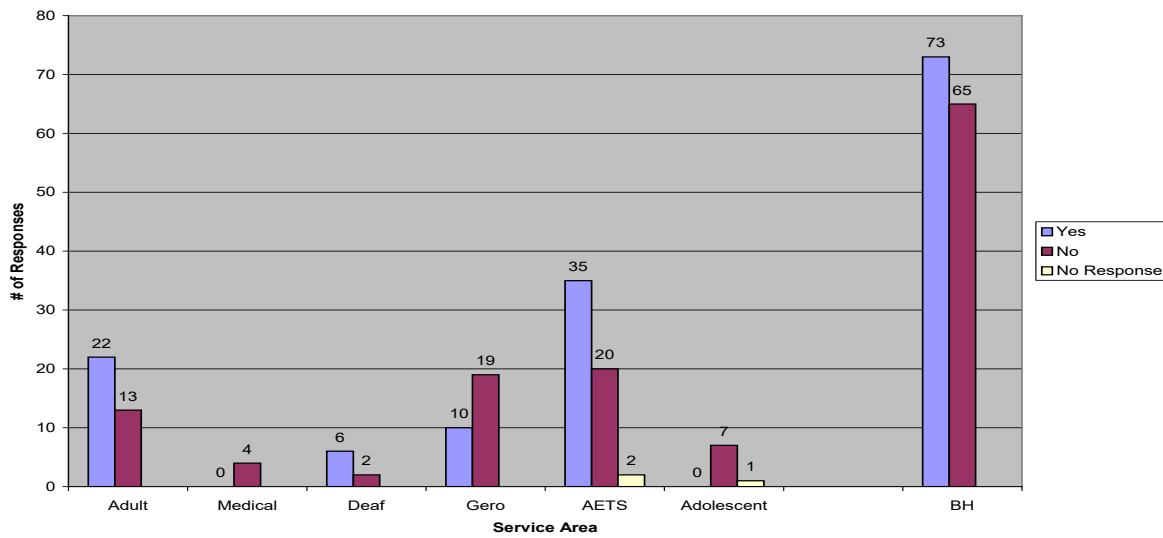
Did you smoke or use tobacco products before you came into the hospital?



Sixty-one percent (61%) of patients reported that they used tobacco products before coming into the hospital.

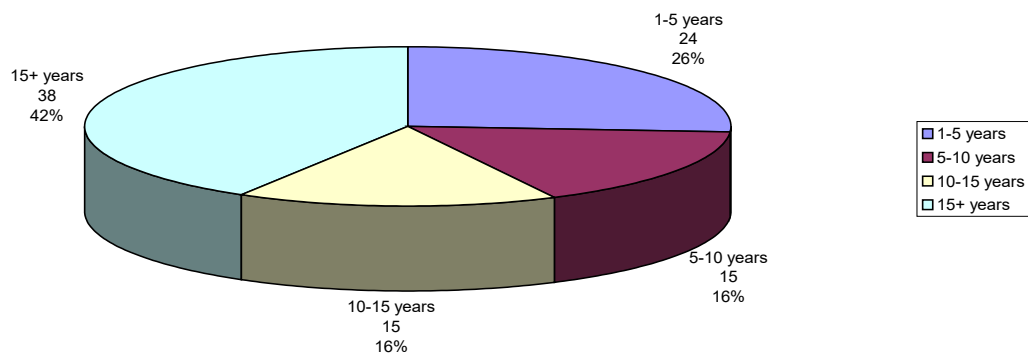
**Broughton Hospital Patient Survey
Tobacco Free Facility Pre Implementation
Survey Results**

Do you plan on using tobacco products once you are discharged from the hospital?



Fifty-three percent (53%) of patients planned on using tobacco products following discharge.

How long have you smoked/ used tobacco products?



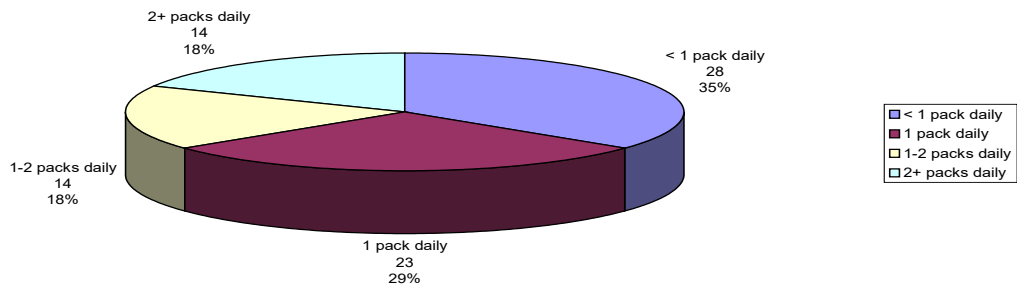
Forty-two percent (42%) of patients who smoked have smoked for over 15 years.

Broughton Hospital Patient Survey

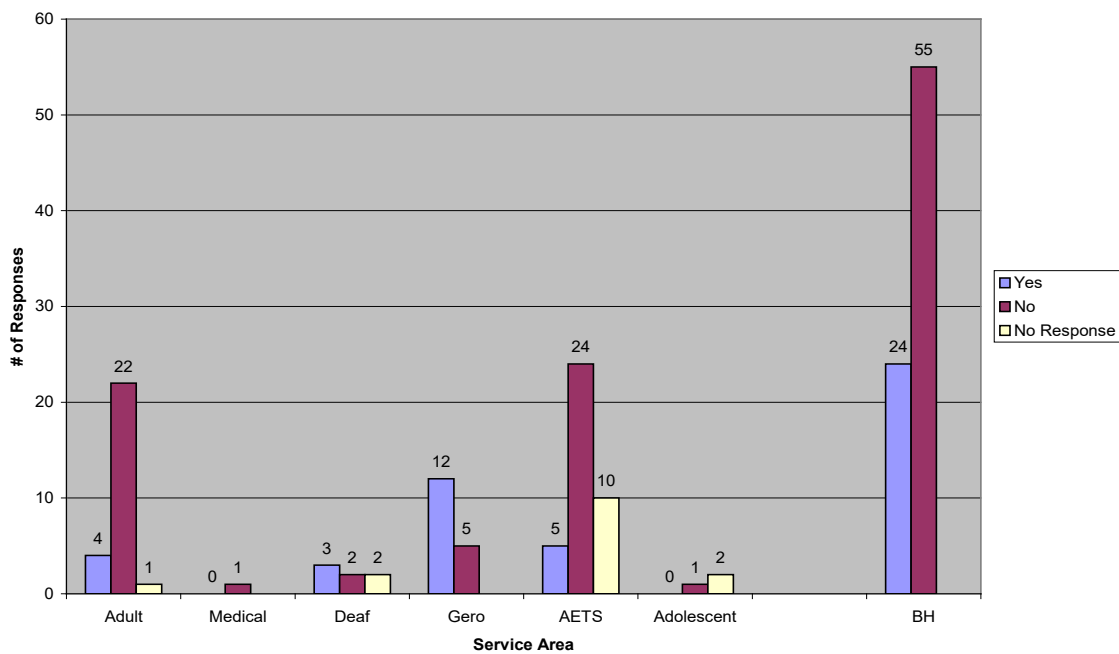
Tobacco Free Facility Pre Implementation

Survey Results

How much do you smoke/ use tobacco products?



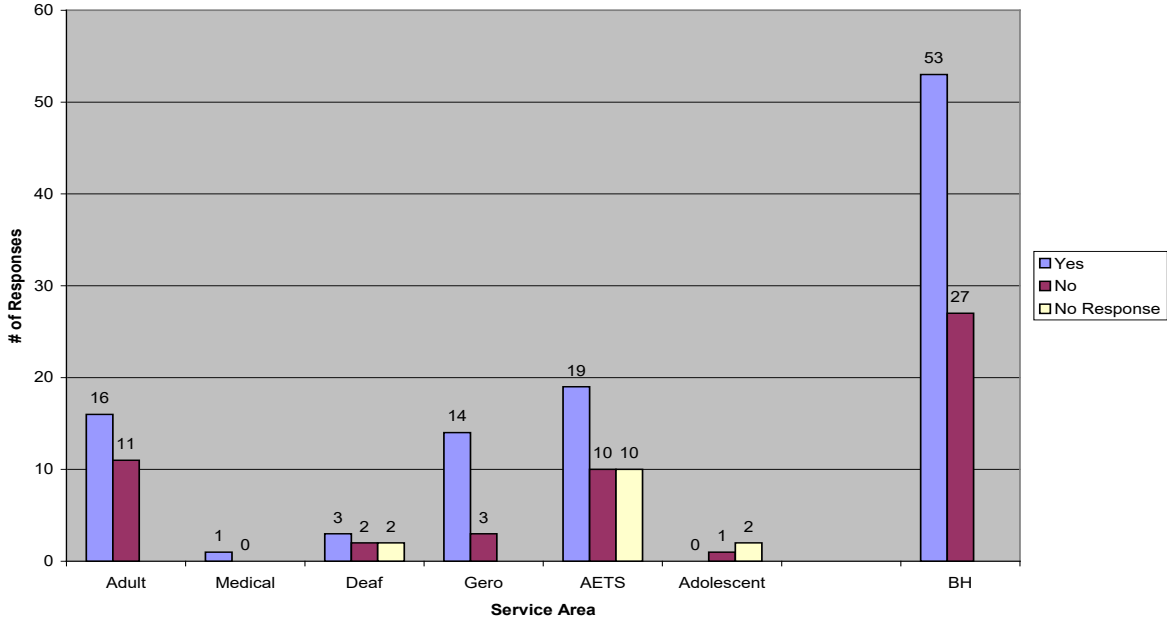
Are you interested in quitting?



Thirty percent (30%) of patients reported being interested in quitting smoking.

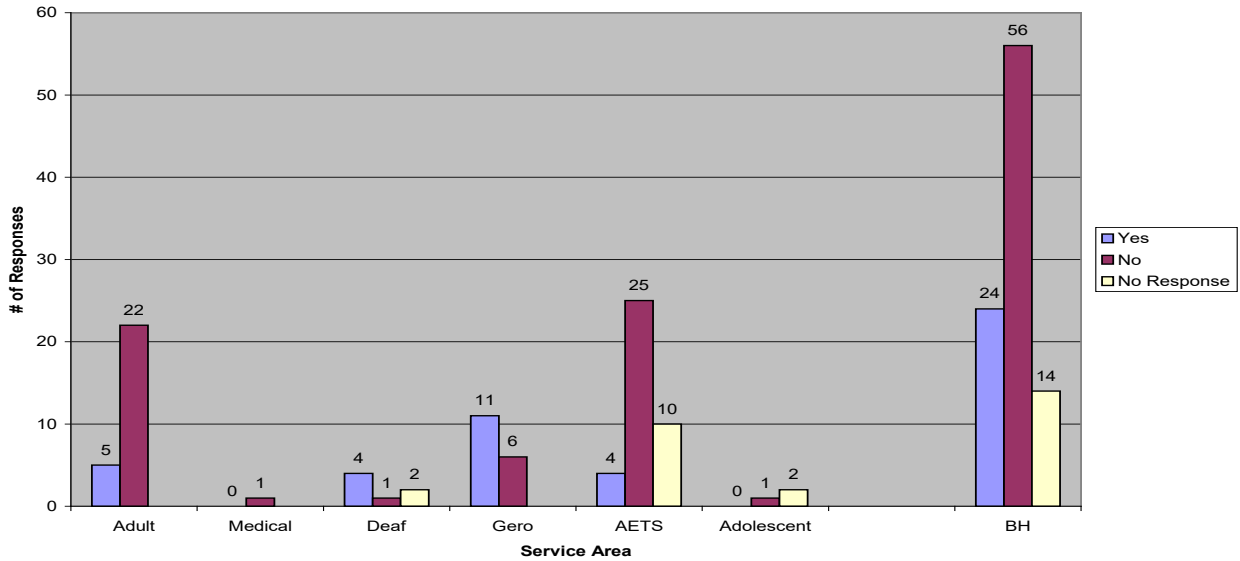
**Broughton Hospital Patient Survey
Tobacco Free Facility Pre Implementation
Survey Results**

Have you tried to quit before?



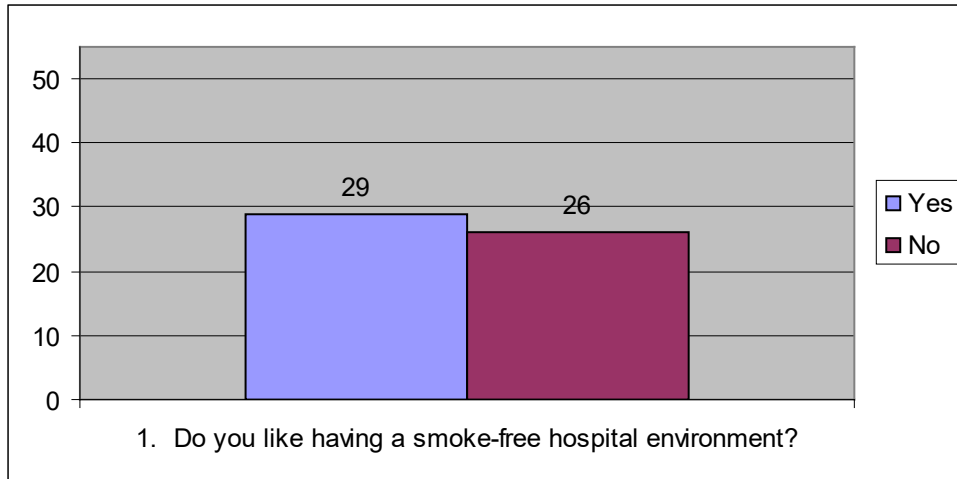
Sixty-six percent (66%) of patients have tried to quit smoking in the past.

**Would you be interested in participating in a class about how to help you quit using tobacco
whie at the hospital?**

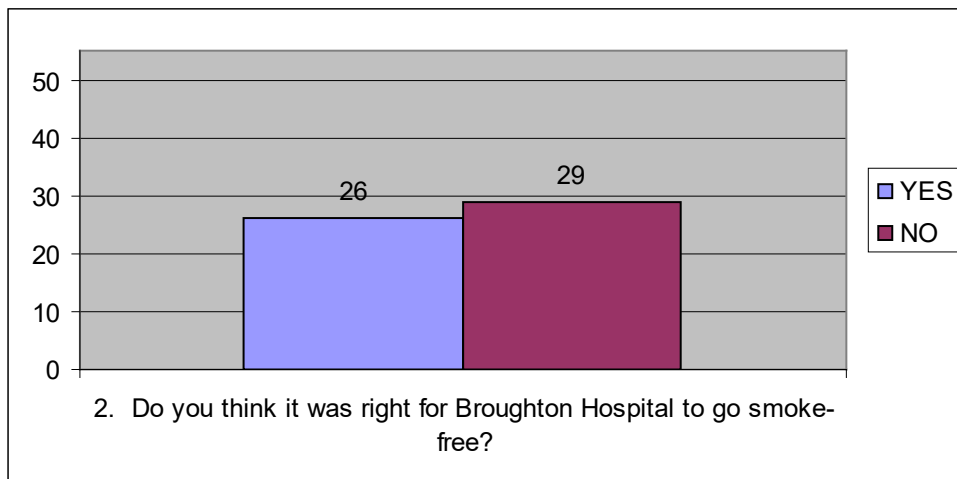


Twenty-six percent (26%) of patients reported being interested in classes to help them quit smoking.

Broughton Hospital Patient Survey
Tobacco Free Facility Post Implementation
Survey Results

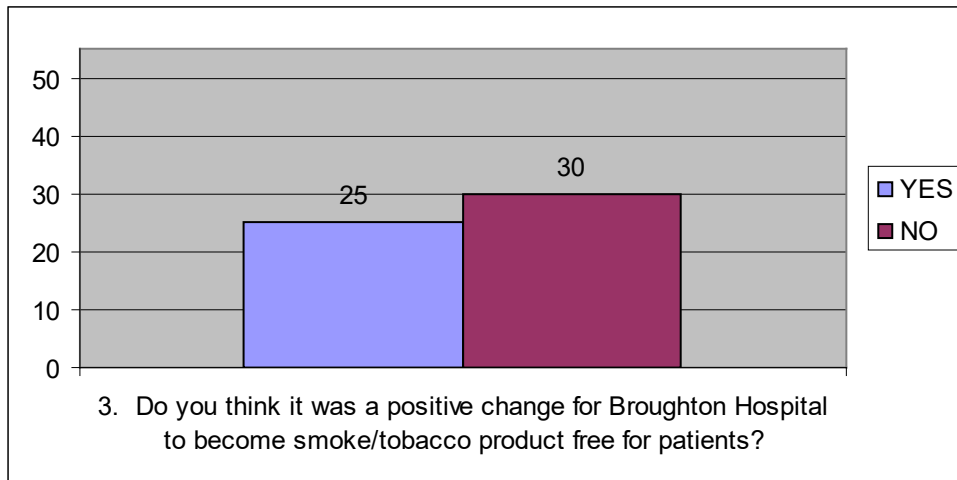


Fifty-three percent (53%) of patients who responded reported that they liked having a smoke free hospital environment.

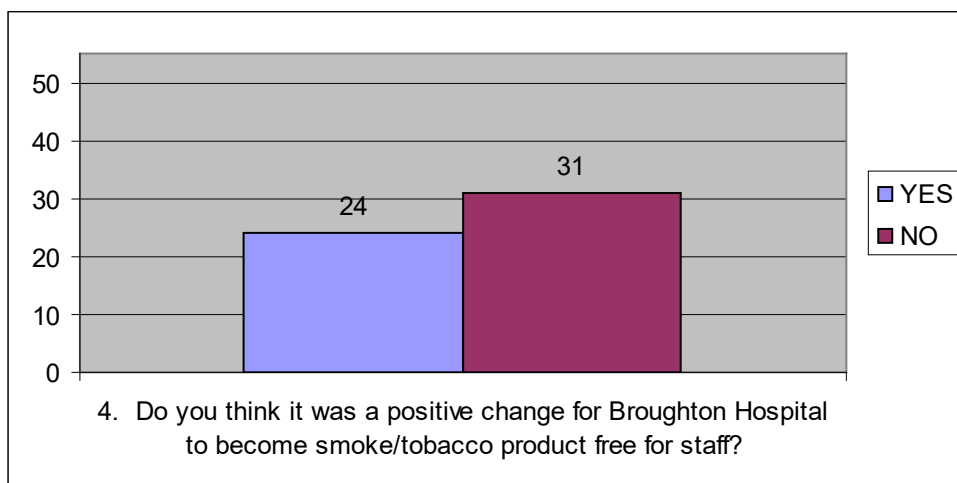


Forty-seven percent (47%) of patients thought it was right for Broughton Hospital to go smoke-free.

Broughton Hospital Patient Survey
Tobacco Free Facility Post Implementation
Survey Results

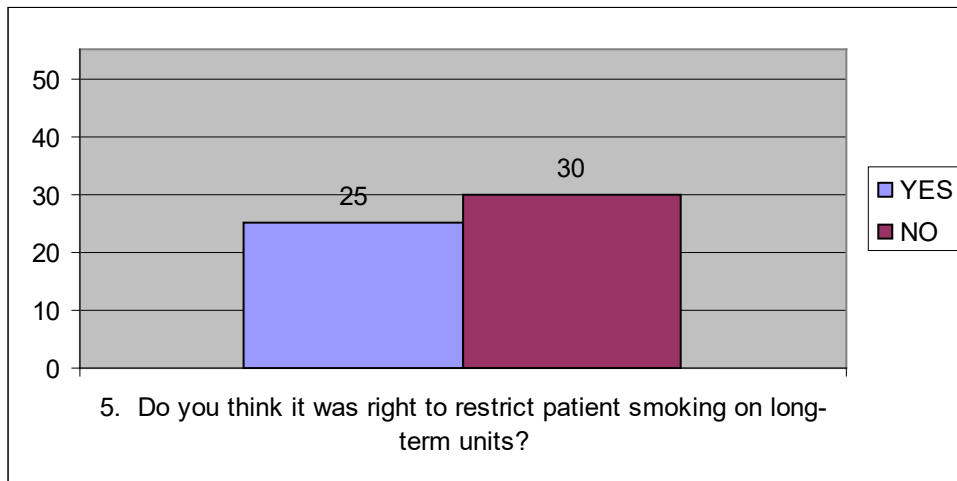


Forty-five percent (45%) of patients reported that it was a positive change for Broughton Hospital to become tobacco free for patients.



Forty-four percent (44%) of patients who responded thought it was a positive change for Broughton Hospital to become smoke free for staff.

Broughton Hospital Patient Survey
Tobacco Free Facility Post Implementation
Survey Results



Forty-five percent (45%) of patients thought it was right to restrict smoking on long-term units.

BROUGHTON HOSPITAL - EMPLOYEE OUTCOME MEASURES

Staff Call Outs

Employee Disciplinary Action Violations due to Leave and Call in Policy

July-September 2009

Pre-Implementation	July	August	September	Qtr Rate
Written Warning	4	2	5	3.67
Suspension	1	0	1	0.67
Dismissal	0	1	1	0.67

October-December 2009

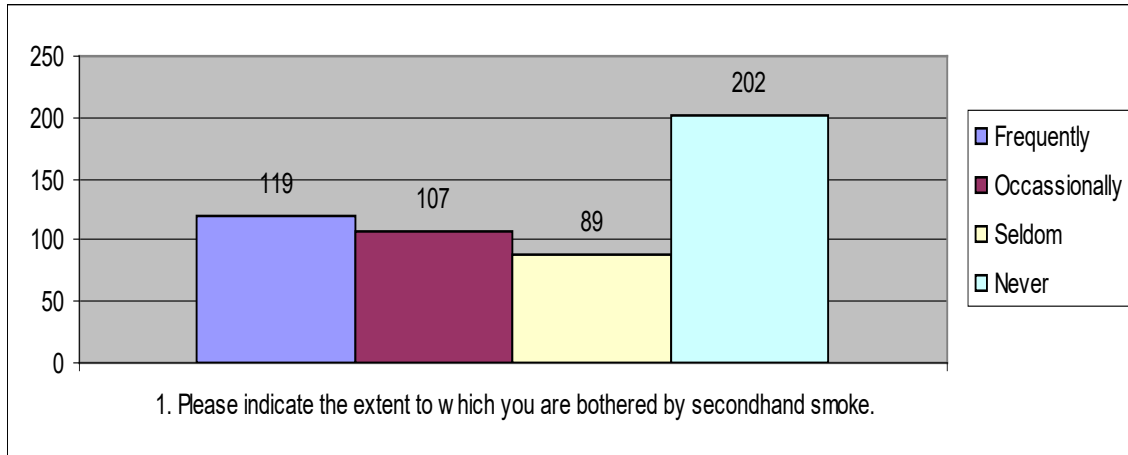
During-Implementation	October	November	December	Qtr Rate
Written Warning	1	0	0	0.33
Suspension	0	0	0	0.00
Dismissal	0	0	0	0.00

January-March 2010

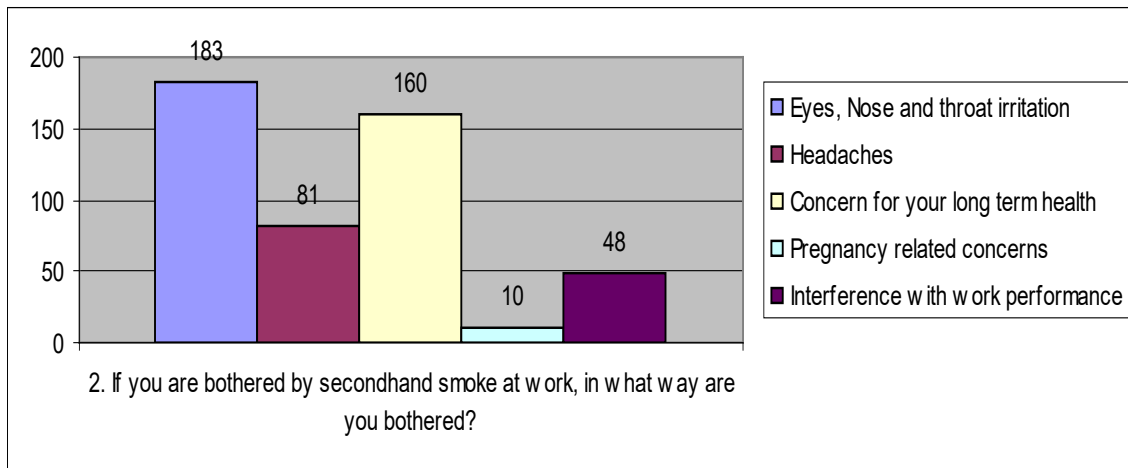
Post-Implementation	January	February	March	Qtr Rate
Written Warning	2	1	5	2.67
Suspension	0	0	0	0.00
Dismissal	1	0	0	0.33

Compared to the pre-implementation period, written warnings to staff decreased by 59%. There were a 100% reduction in staff suspensions and 75% reduction in dismissals by compared to the pre-implementation period.

**Broughton Hospital Employee Survey
Tobacco Free Facility Pre-Implementation
Survey Results**

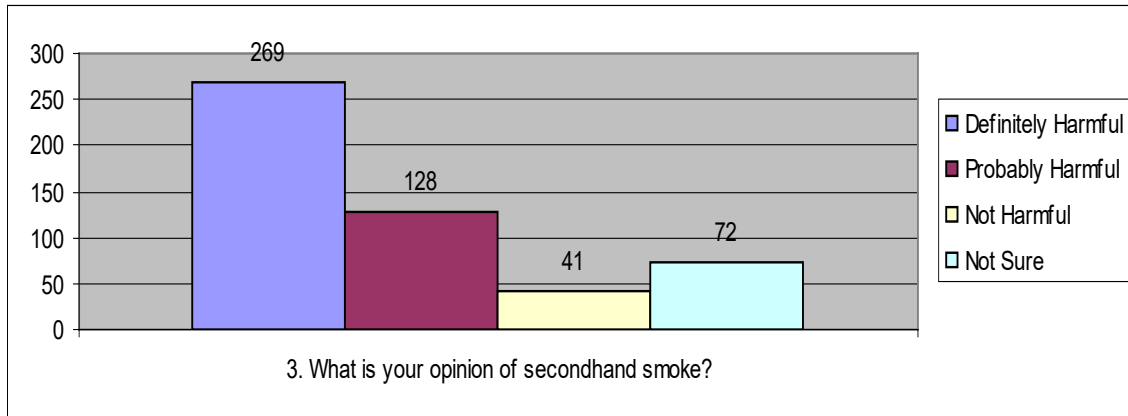


Forty-three percent of employees reported being frequently or occasionally bothered by second-hand smoke.

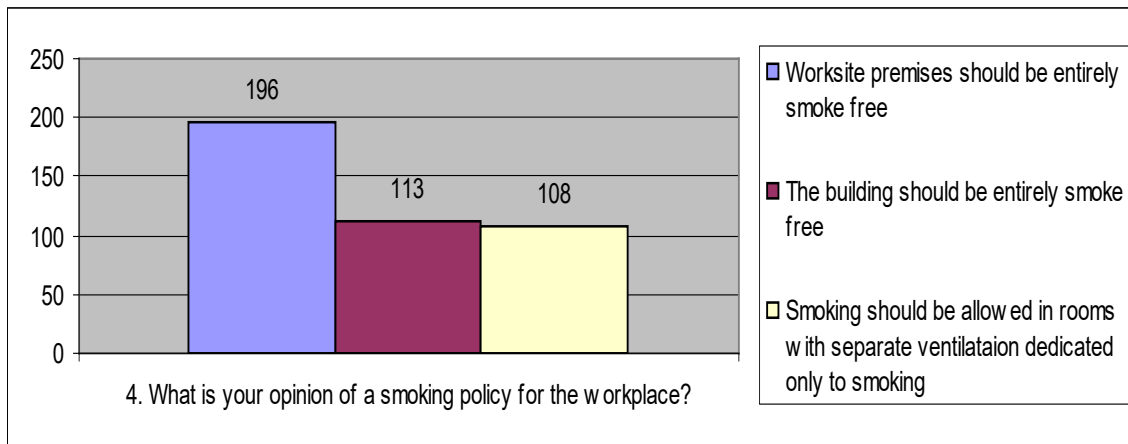


Prior to implementation of a smoke free environment, 10% of employees stated that tobacco smoke interfered with their work performance.

**Broughton Hospital Employee Survey
Tobacco Free Facility Pre-Implementation
Survey Results**

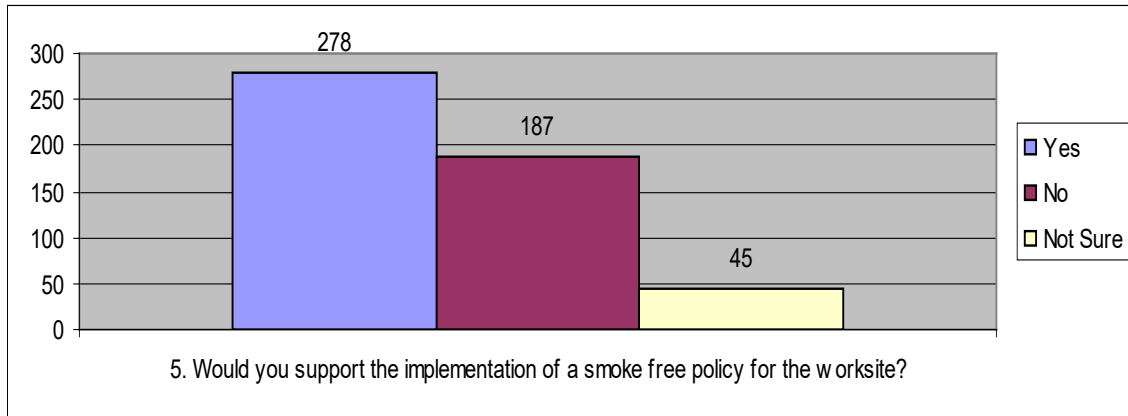


Seventy-eight percent (78%) of surveyed employees think second-hand smoke is definitely or probably harmful.

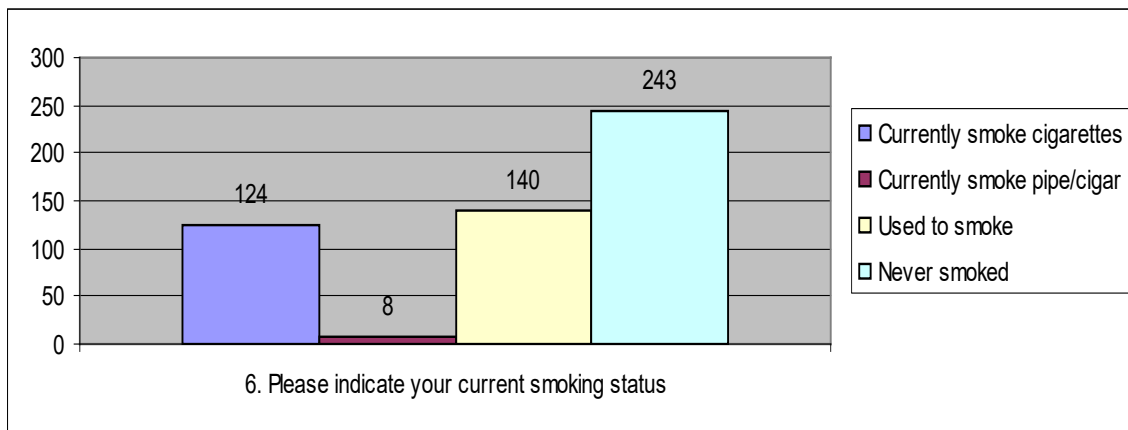


Forty-seven percent (47%) of surveyed employees felt that the worksite should be entirely smoke free. The remainders (27% and 24%) were divided between supporting a smoke free building and separately ventilated rooms.

Broughton Hospital Employee Survey
Tobacco Free Facility Pre-Implementation
Survey Results

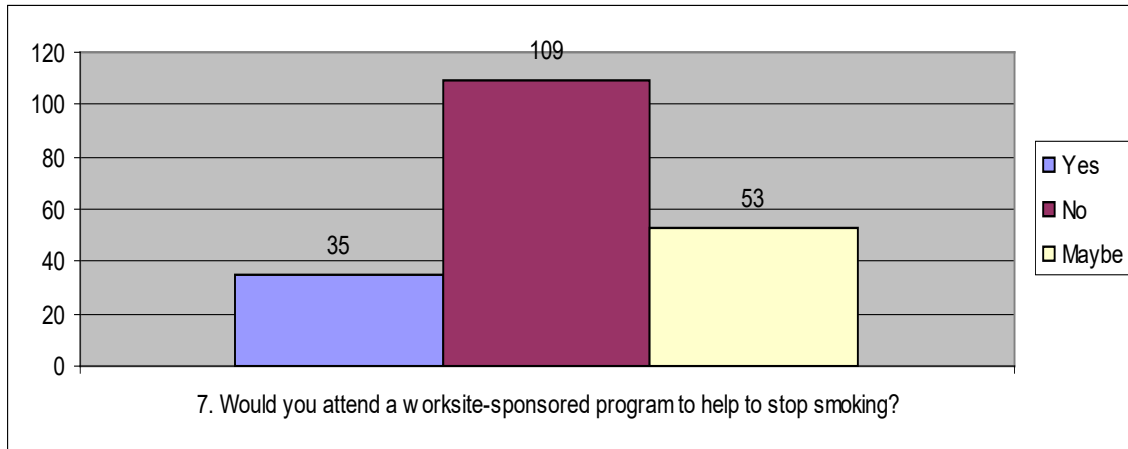


Fifty-five percent (55%) of surveyed employees supported the implementation of a smoke free work environment at Broughton.

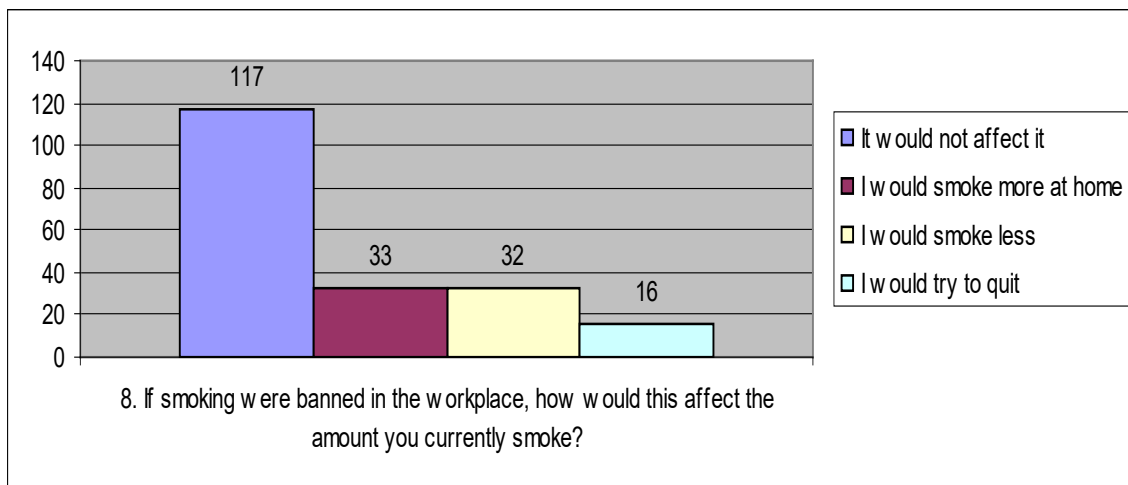


Twenty-six percent (26%) of surveyed employees currently smoke tobacco products.

Broughton Hospital Employee Survey
Tobacco Free Facility Pre-Implementation
Survey Results



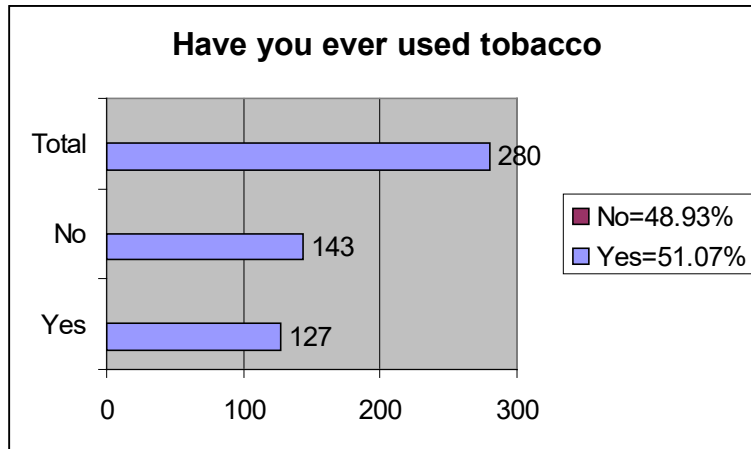
Eighteen percent (18%) of employees reported that they would use a work-site sponsored tobacco cessation program.



Fifty-nine percent (59%) of employees did not think that a tobacco free environment would affect the amount that they smoke, 17% thought they would smoke more at home, 16% thought they would smoke less, and 8% thought they would try to quit.

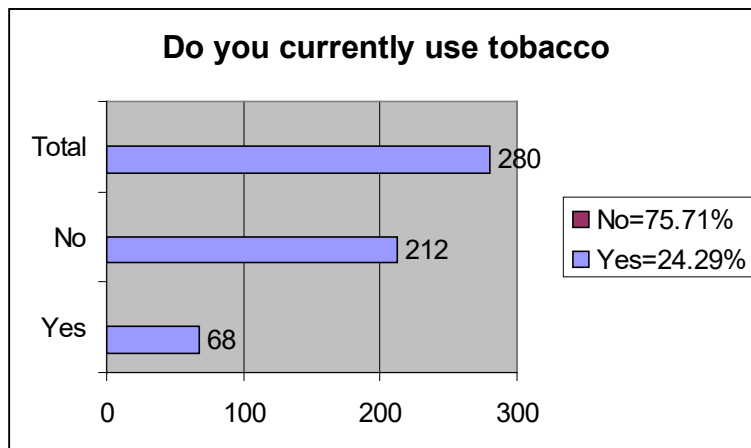
Employee Post Implementation Survey

Question 1: Have you ever used tobacco products?



Fifty-one percent (51%) of employees reported having used tobacco at some point in the past.

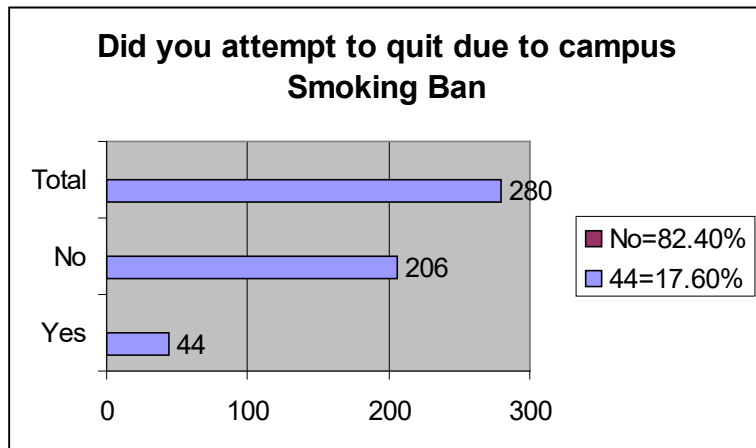
Question 2: Do you currently use tobacco products?



Sixty-eight employees (24.29%) reported that they currently use tobacco.

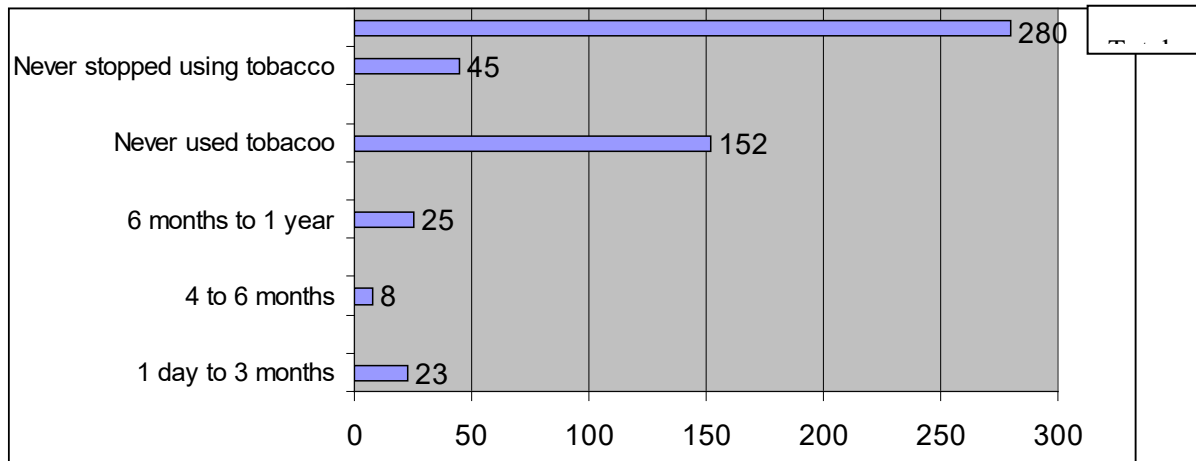
Employee Post Implementation Survey

Question 3: Did you attempt to quit using tobacco products when Broughton Hospital started the ban of tobacco use on campus in October 2009?



Forty-four employees reported attempting to quit smoking following the implementation of a tobacco free campus.

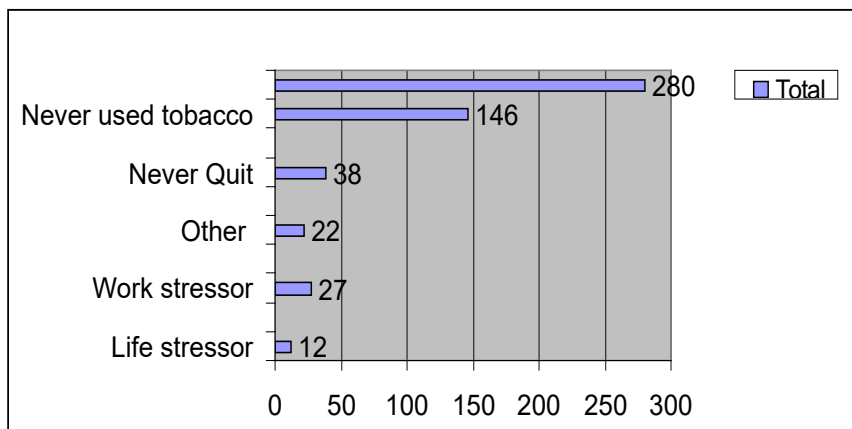
Question 4: How long were you able to quit using tobacco products starting in October 2009



Fifty-five percent (55%) of smoking employees reported stopping use of tobacco for at least some period of time following the implementation of a smoke free environment.

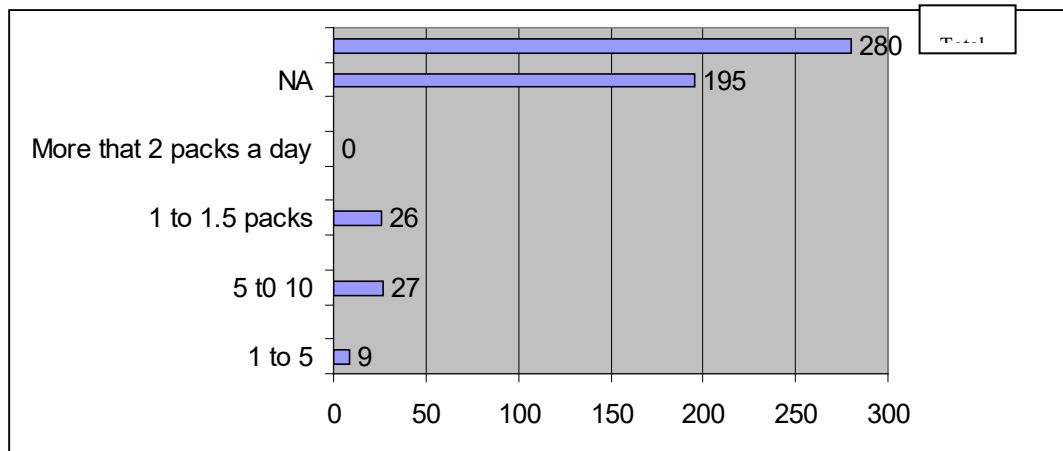
Employee Post Implementation Survey

Question 5: If you started back to using tobacco after quitting, which best describes the event that lead to your beginning to use tobacco again?



Thirty-eight percent (38%) of employees reported that they had not stopped smoking in the past. When they did stop, the most common stressor that led to beginning to use tobacco again was work.

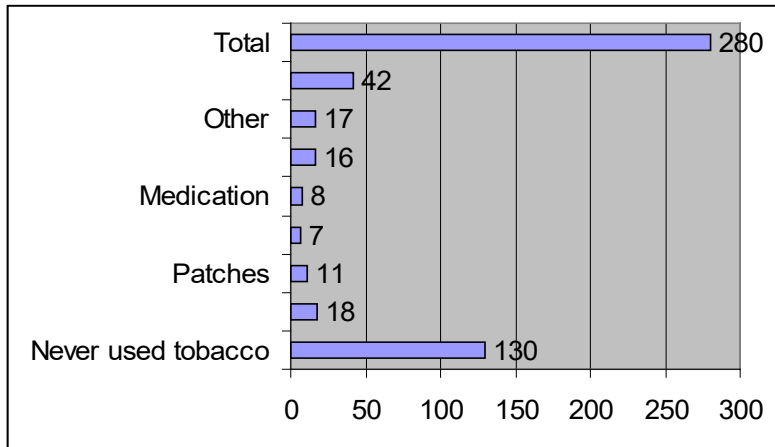
Question 6: If you currently used cigarettes, approximately how many do you smoke a day?



Forty-two percent (42%) of employees who smoke reported smoking 1 to 1.5 packs per day.

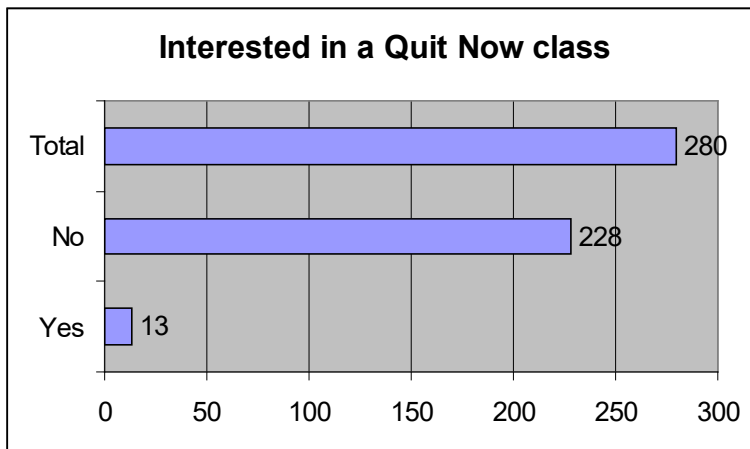
Employee Post Implementation Survey

Question 7: If you attempted to quit using tobacco in October 2009, did you use patches, gum etc and if so what did you use?



Employees used a variety of strategies in quit attempts.

Question 8: Would you be interested in attending a quit now tobacco cessation program to help you quit using tobacco if the hospital offers one?



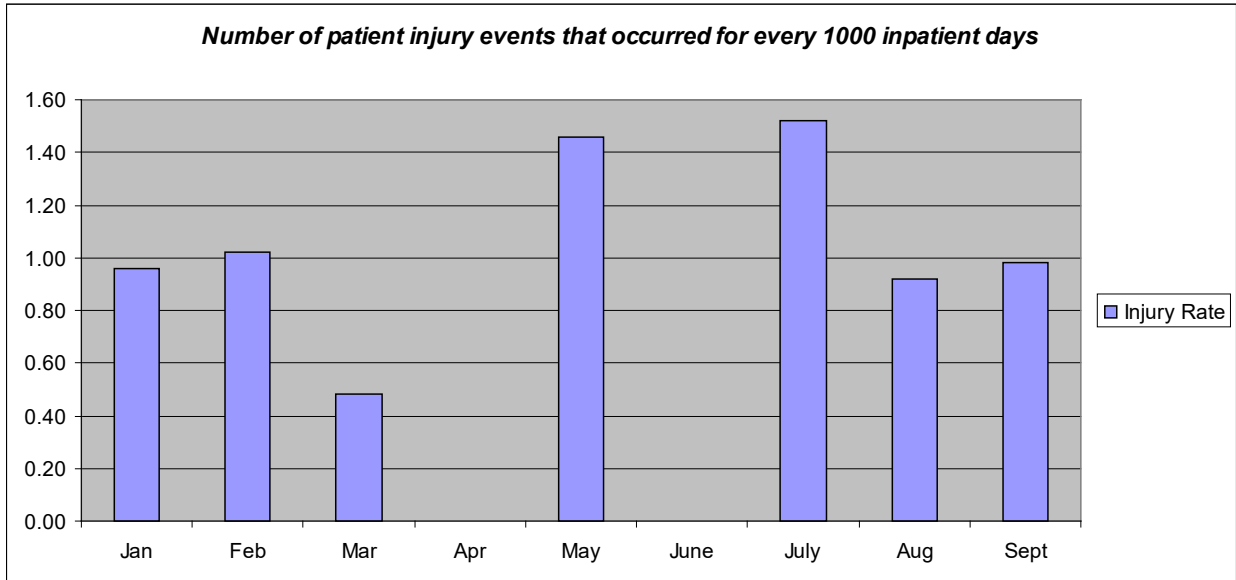
Thirteen employees expressed interest in being assisted by the Hospital in smoking cessation.

Financial Outcomes

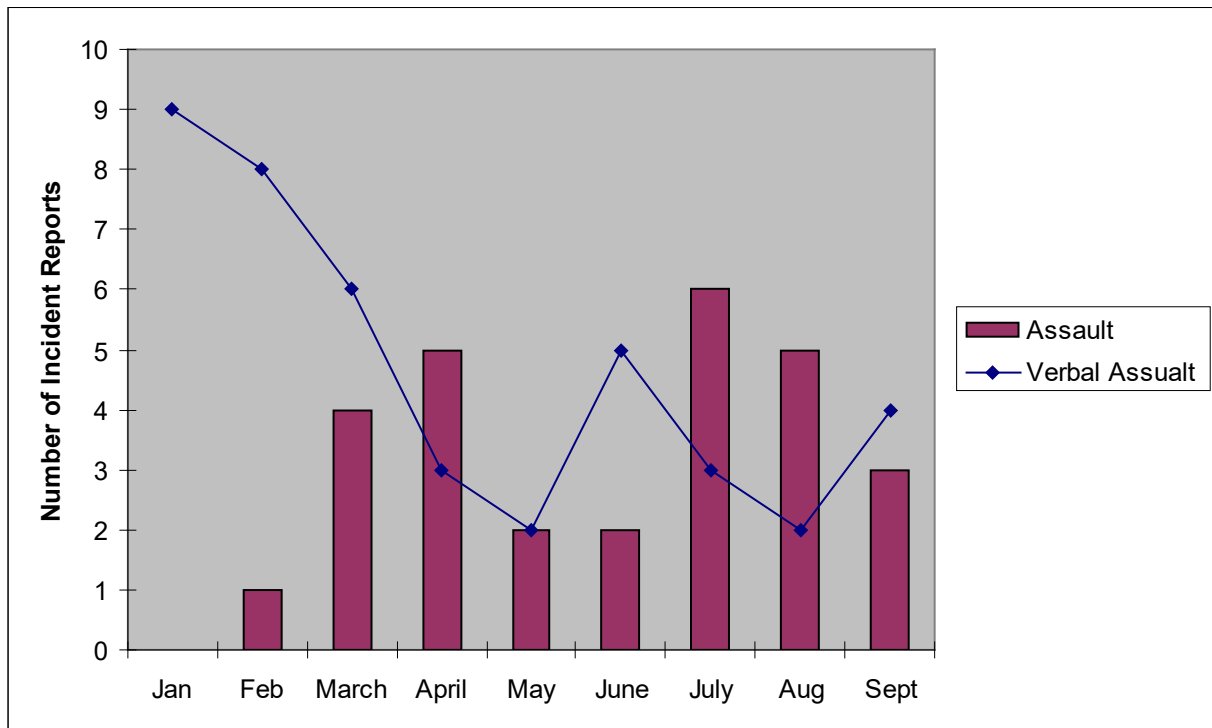
There was no financial impact as a result of the tobacco free pilot.

Appendix D

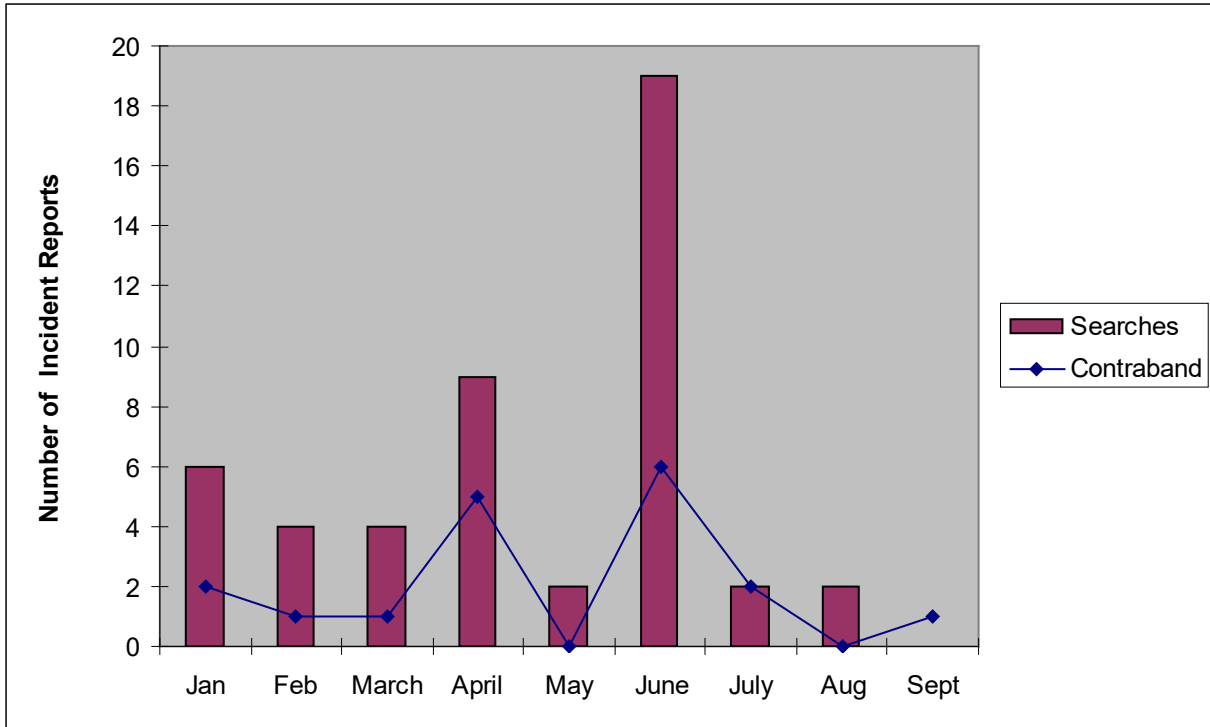
Walter B Jones ADATC Outcomes Measures – Behavioral



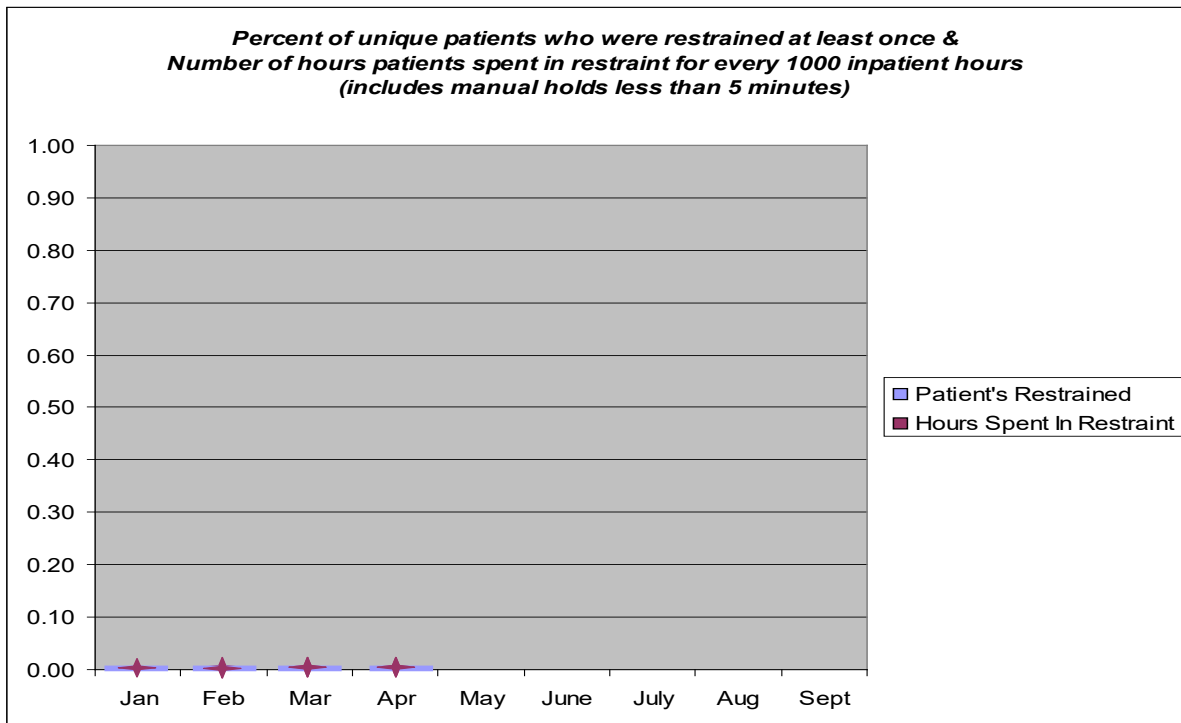
There was no change in the pattern of injuries during the implementation and monitoring period.



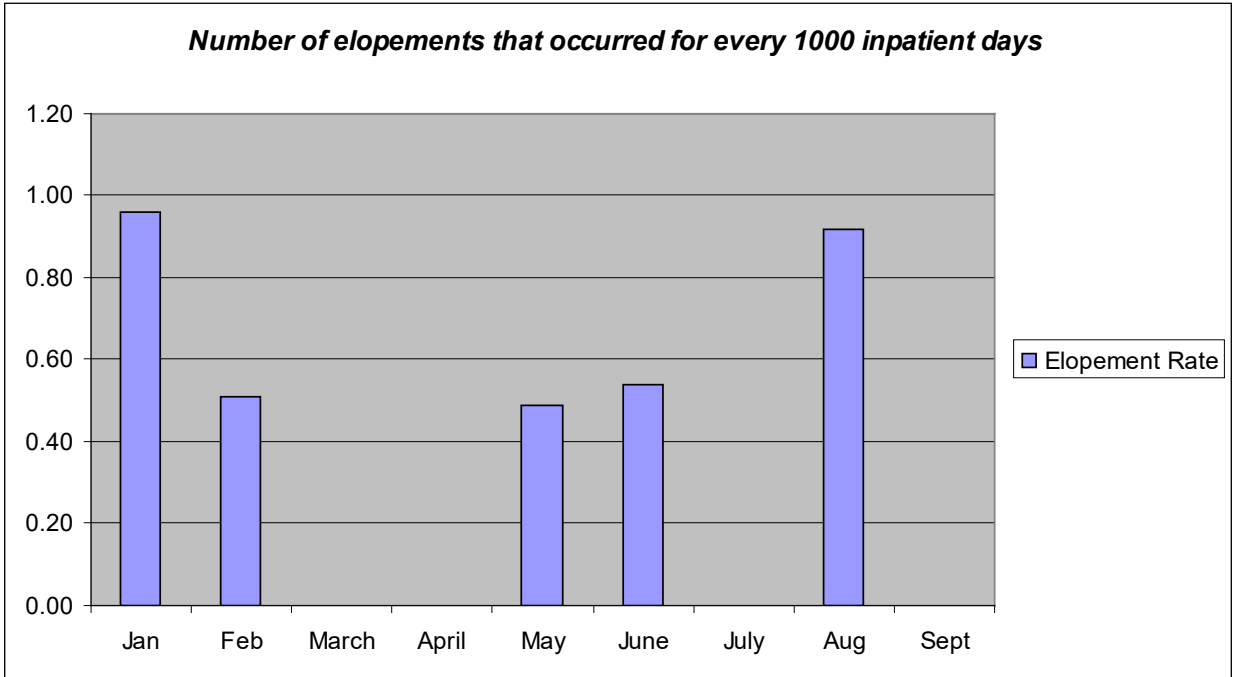
There was a sustained trend and reduction in verbal assaults, declining from an average of 7.66 assaults per month in the 3 months prior to the tobacco free start date to 3.16 assaults per month in the 6 months after the tobacco free start date. There was no change in the pattern of all assaults during the implementation and monitoring period.



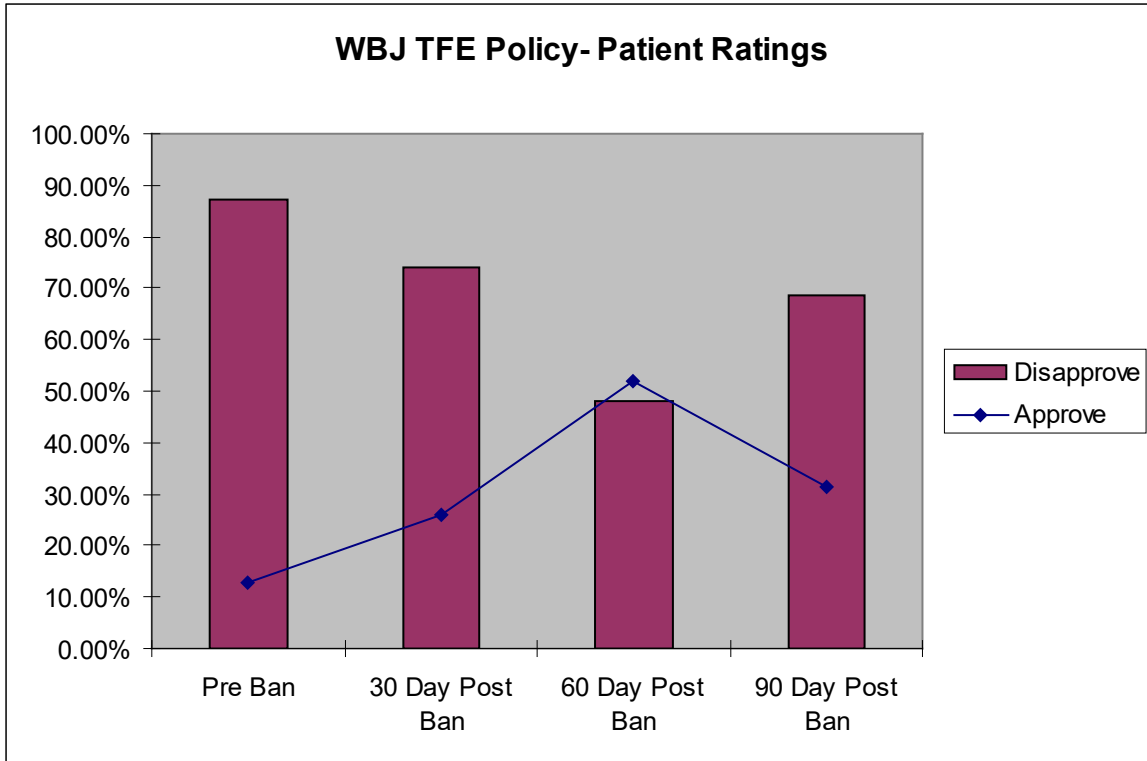
Reports of contraband increased during the month of implementation. Following an emphasis on facility policy and procedures, instances of contraband fell to below average rates.



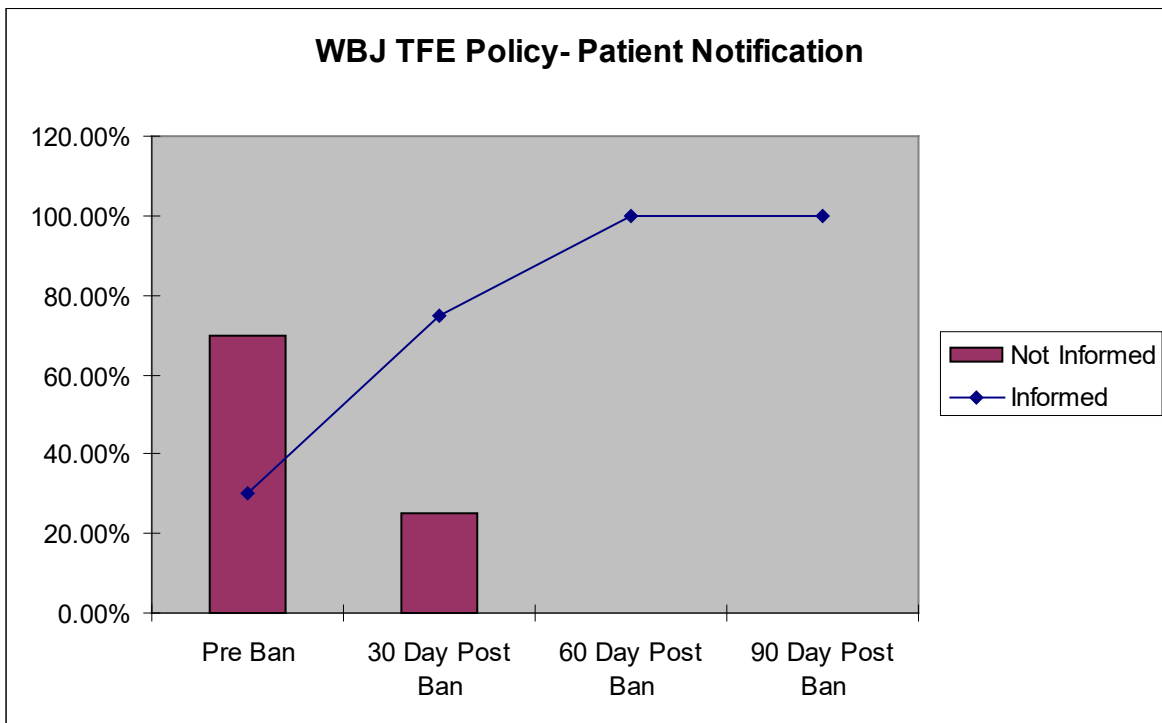
The implementation of a tobacco free campus had no effect on the use of restraints.



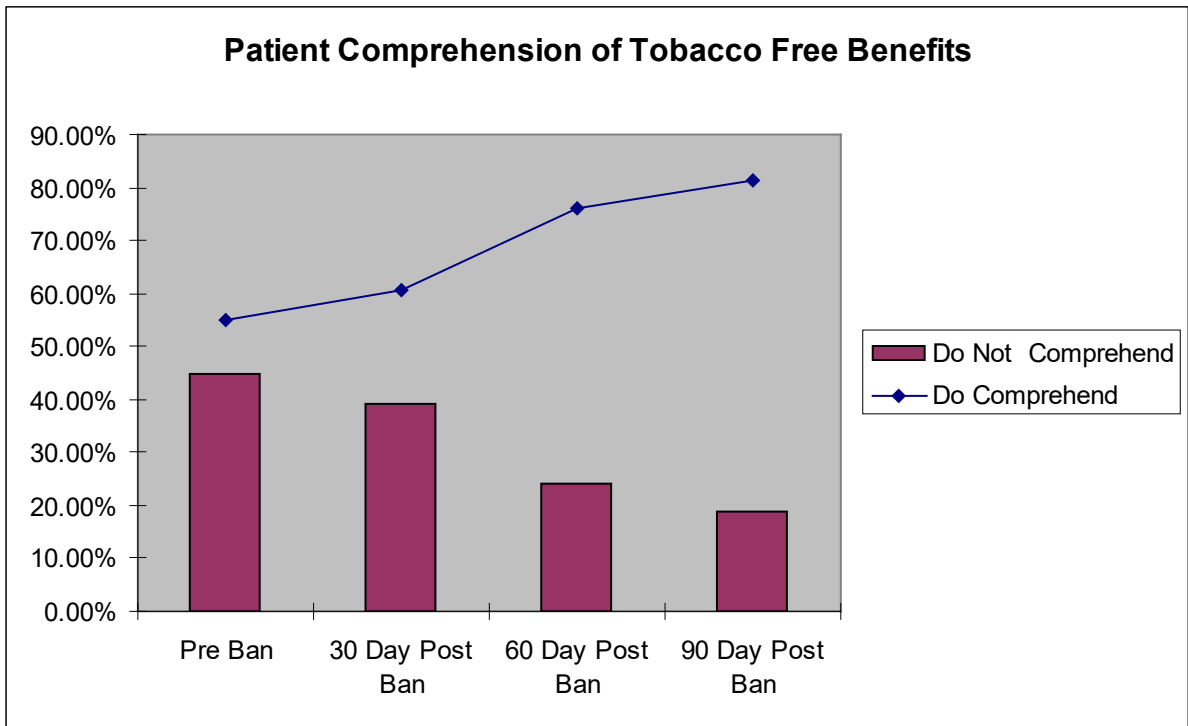
The implementation of a tobacco free campus had no effect on elopements.



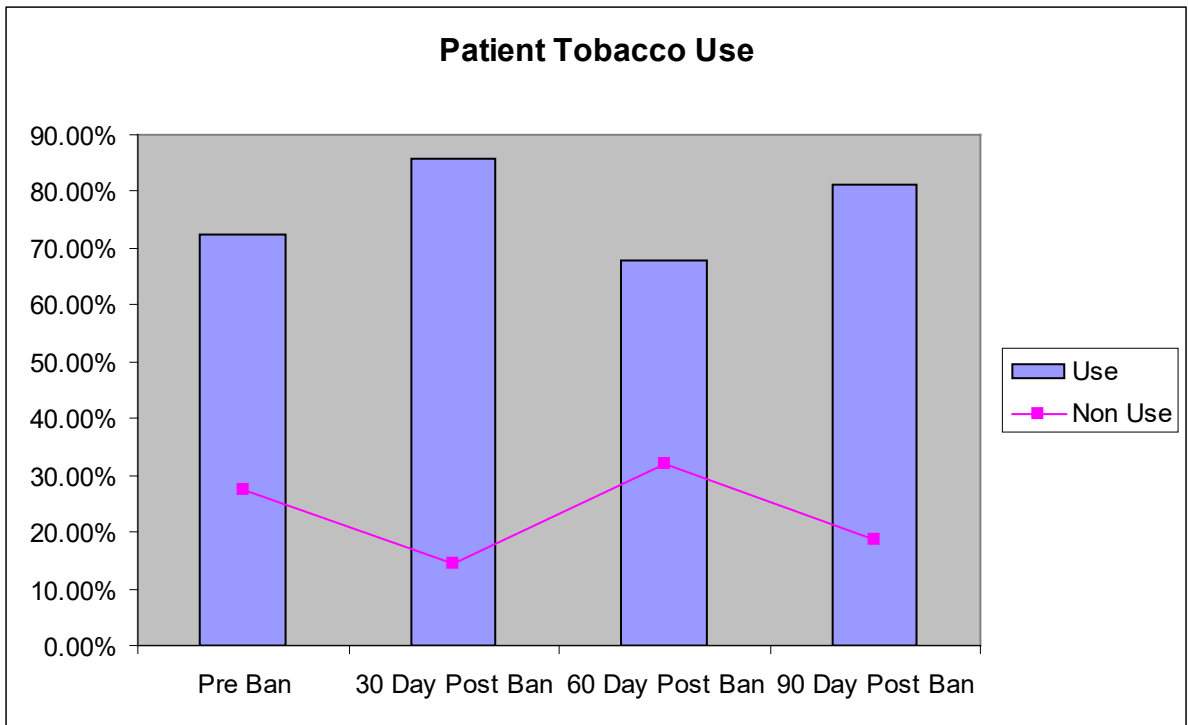
The percent of patients who approved of a tobacco free campus rose from 12.82% prior to the pilot to 31.25% at the end of the pilot monitoring period, a 177% increase.



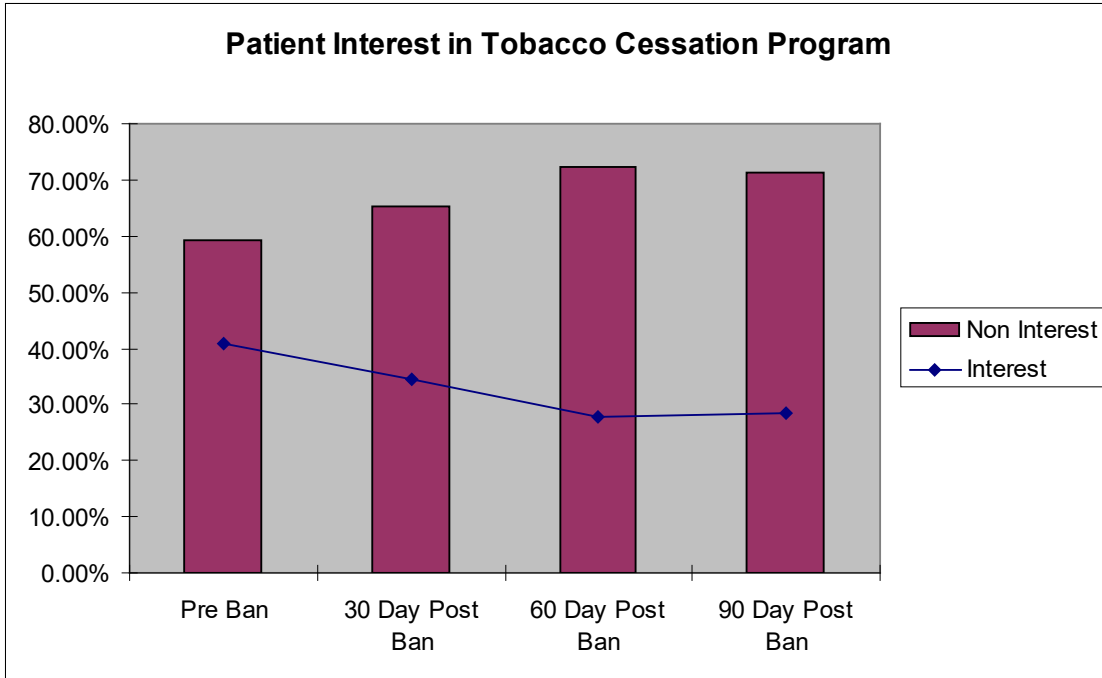
The percent of patients reporting that they were notified of the smoking policy at WBJ rose from 30% to 100%.



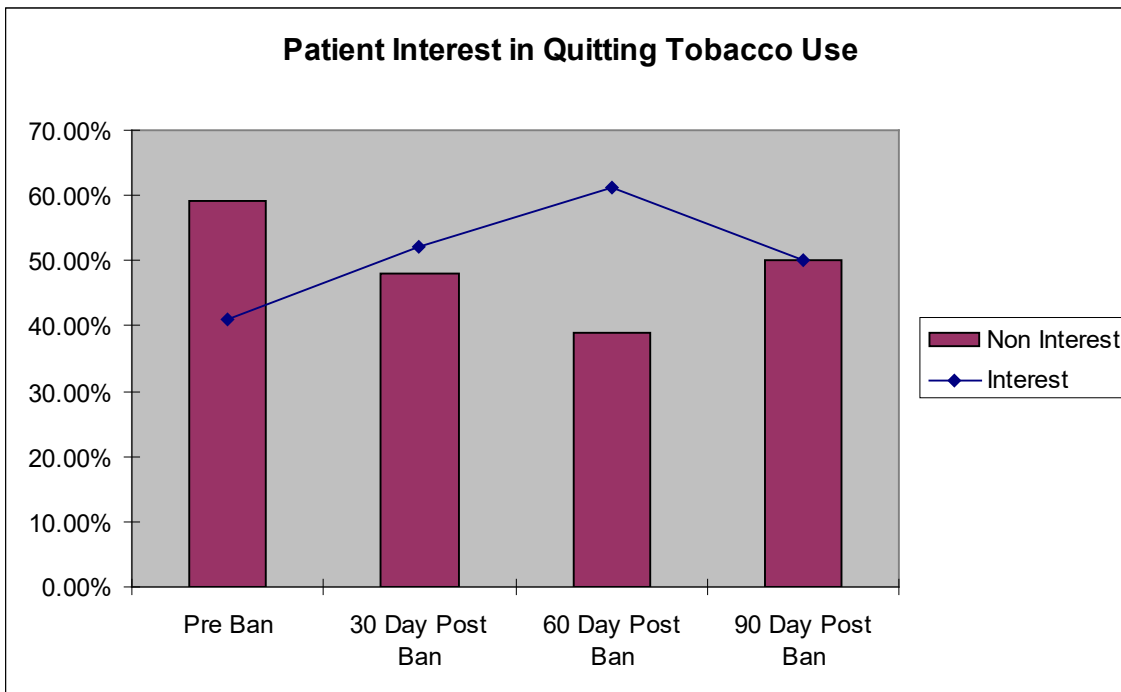
The percent of patients who understood the benefits of a tobacco free campus rose from 55% prior to the pilot to 81.25% at the end of the pilot monitoring period.



The percent of patients that reported using tobacco ranged from 73% to 86%.



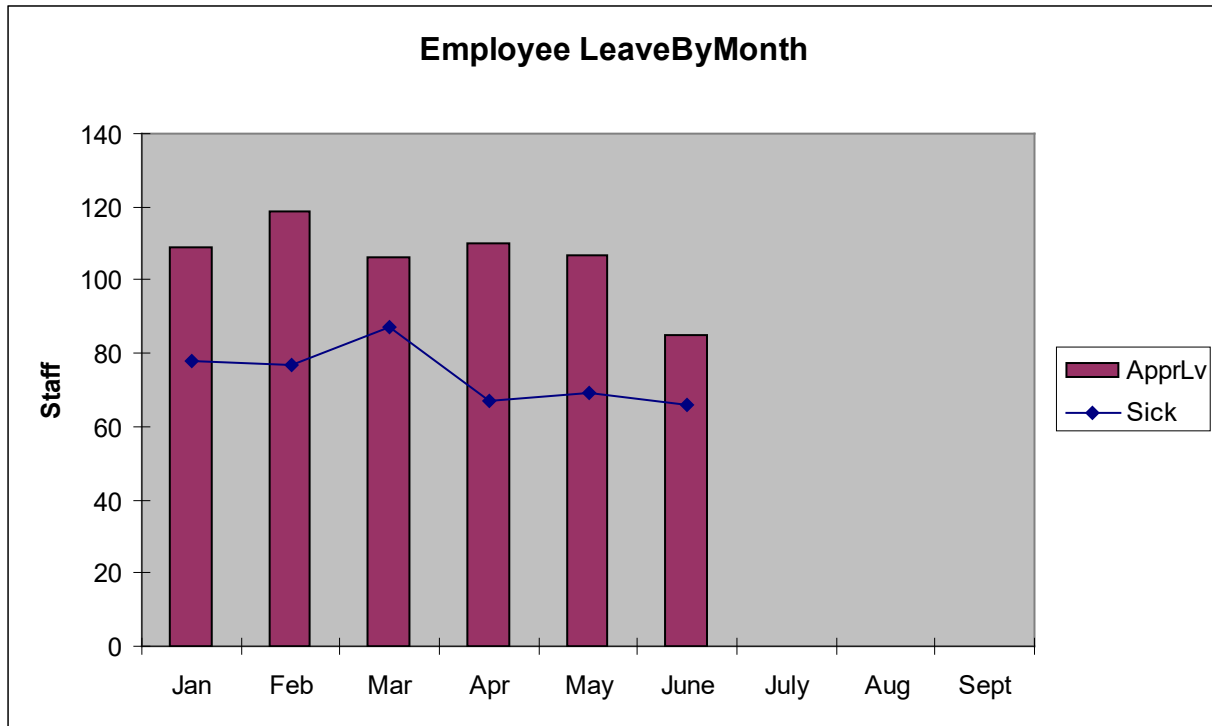
Forty percent (40%) of patients were interested in a tobacco cessation program. During the period of time that patient outcomes were measured, patients were offered participation in a Quitline NC program while receiving treatment at WBJ ADATC. Thirty percent (30%) of patients reported being interested in a tobacco cessation program during this period of time. Use of facility counseling during the period of inpatient treatment was better received by patients than use of Quitline NC counseling.



Patient interest in quitting smoking rose from 41% to between 50% and 61% in the post implementation period.

Walter B Jones ADATC

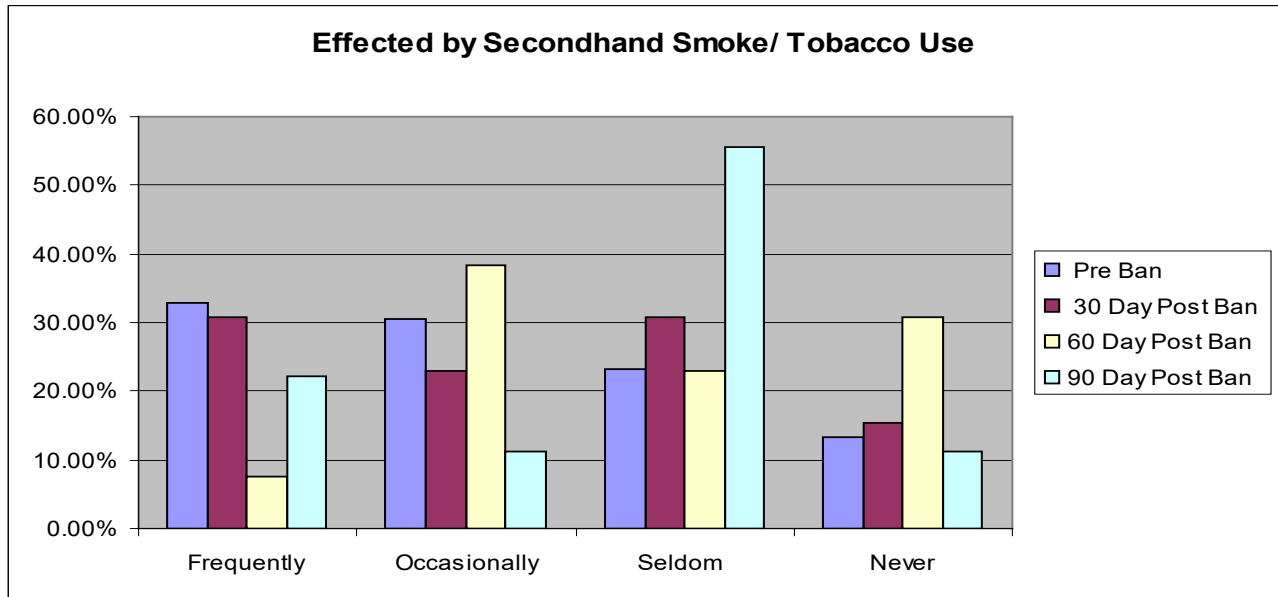
Outcomes Measures – Employee call-outs



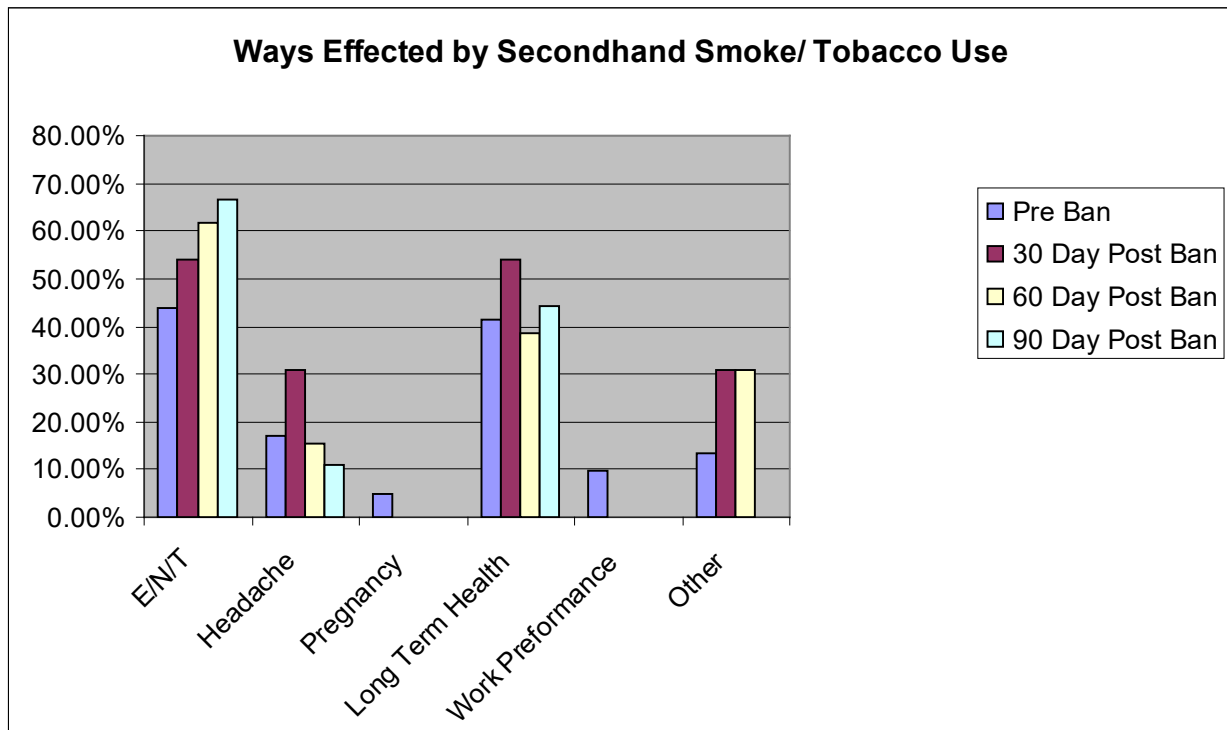
There was a 17% decrease in sick leave by employees after implementation of a tobacco free campus.

Walter B Jones ADATC

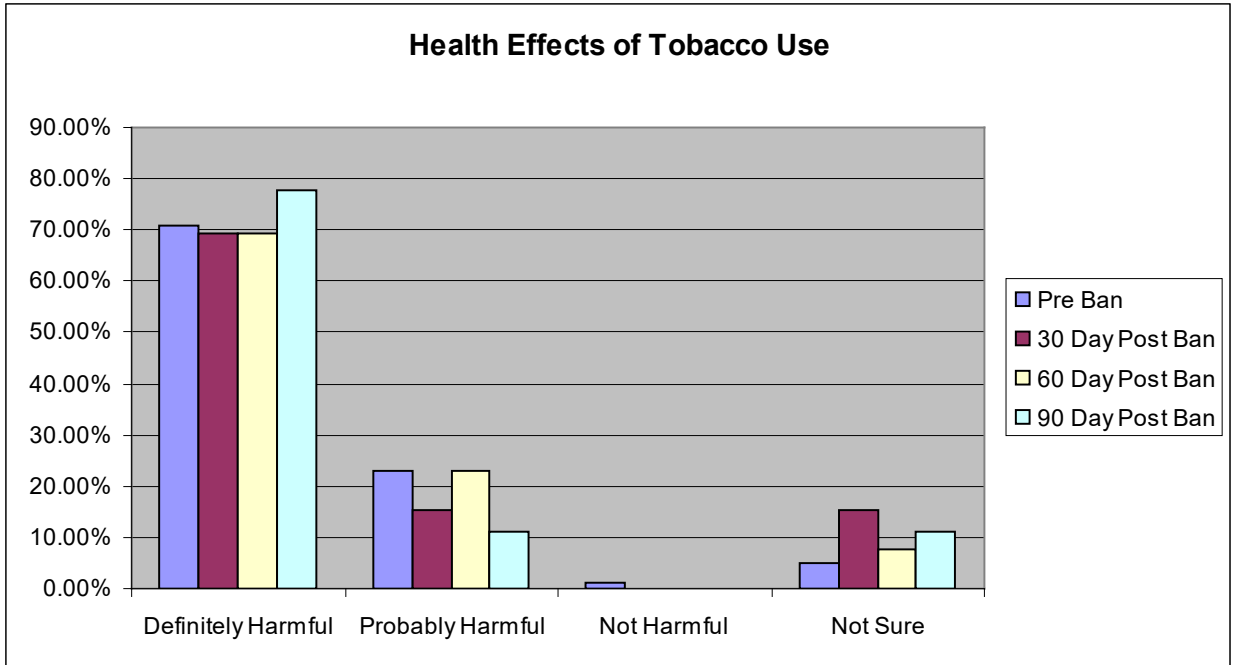
Outcome Measures - Employee Perceptions Pre and Post Implementation



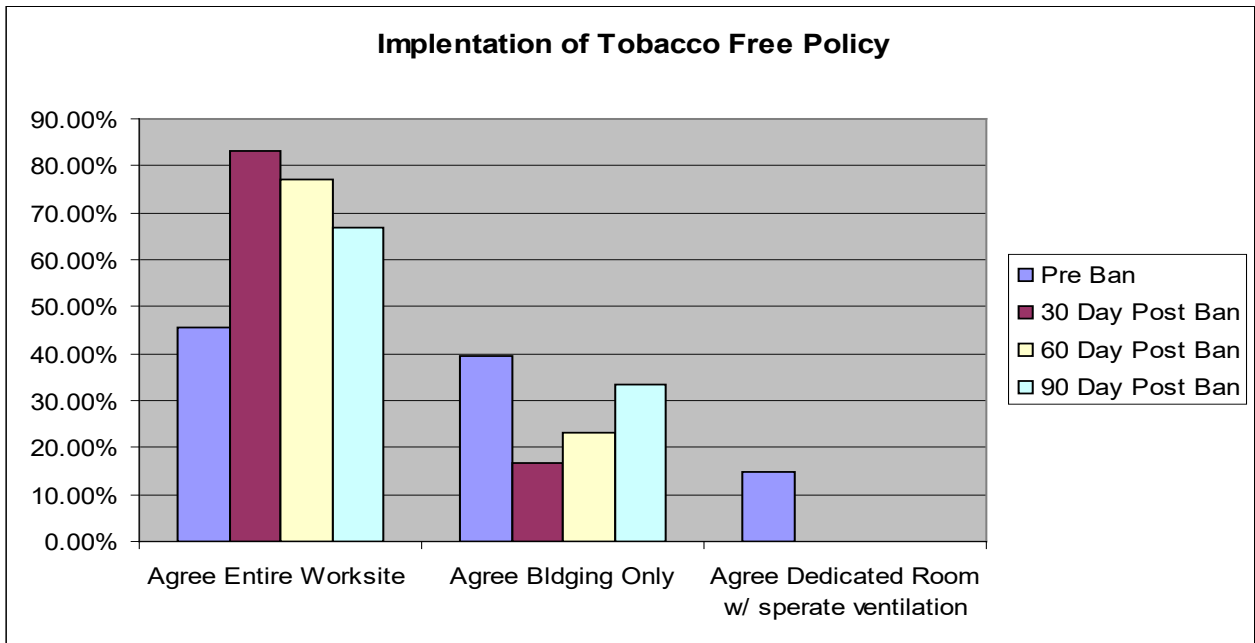
Two thirds of the employees were frequently or occasionally affected by secondhand smoke at WBJ before the Tobacco Free Policy and 90 days after the policy was implemented, two thirds of the employees were seldom or never affected by secondhand smoke.



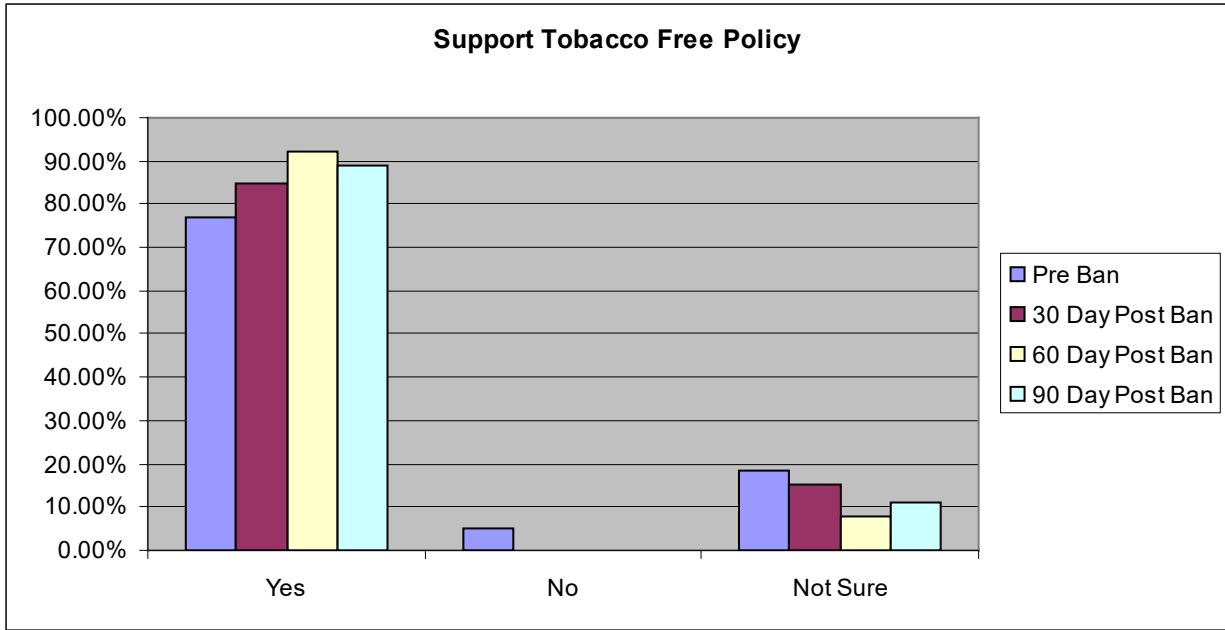
Ten percent (10%) of patients reported that secondhand smoke affected their work performance.



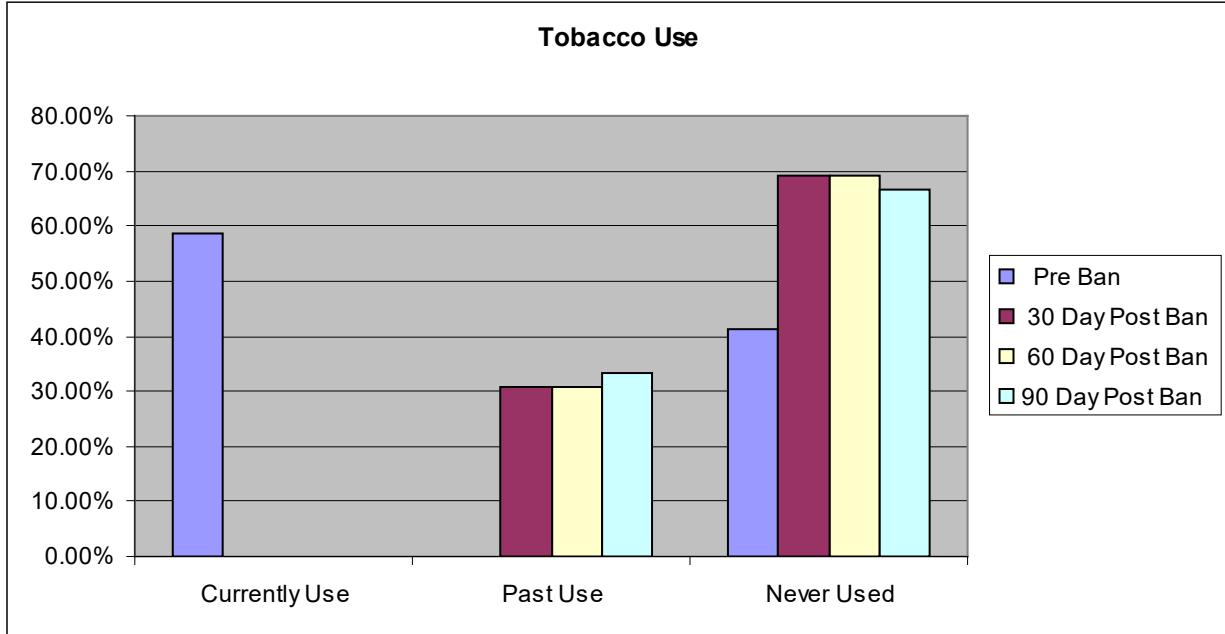
Seventy to eighty percent of employees thought that tobacco use was definitely harmful.

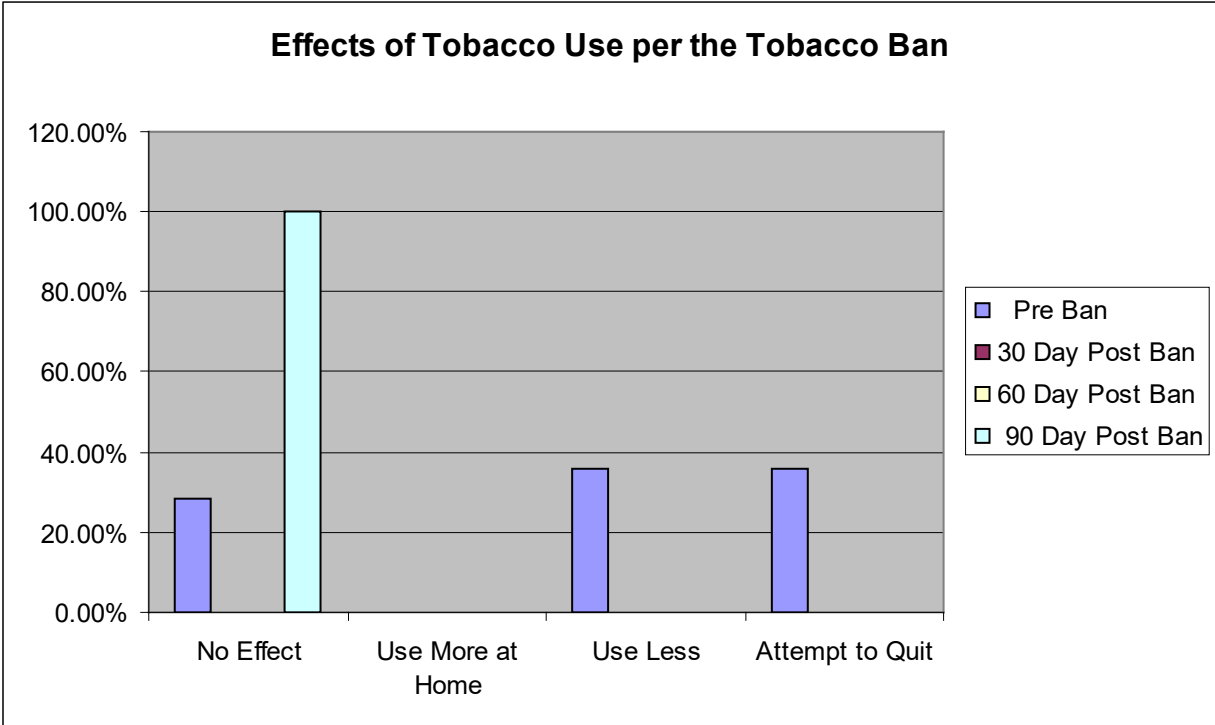


Following implementation of a tobacco free campus, the majority of employees supported the entire worksite being tobacco free.

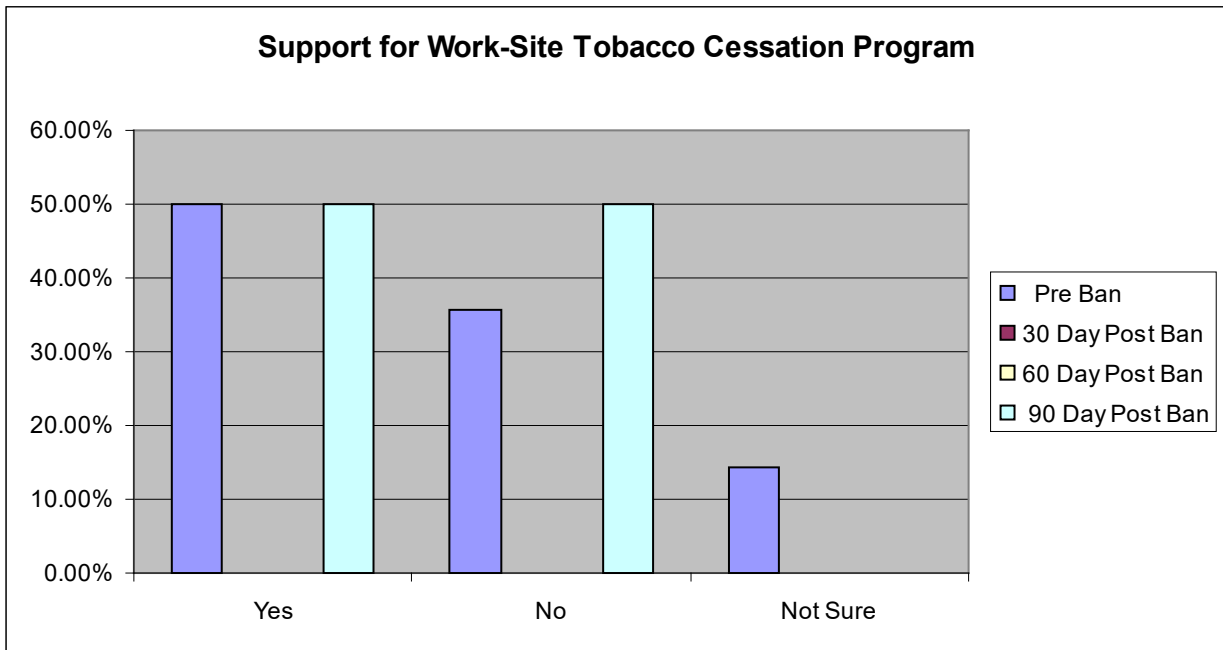


Seventy-six percent (76%) of staff supported the Tobacco Free Campus Policy before implementation and 89% supported the Tobacco Free Campus Policy at the end of the monitoring period.





Prior to the establishment of a tobacco free campus, 26% of employees thought the tobacco free environment would have no effect on their tobacco use, 38% thought they would use less and 38% thought they would attempt to quit. Following the establishment of a tobacco free campus 100% of employees thought the tobacco free environment had no effect on their tobacco use.



About half of employees supported having a worksite tobacco cessation program.

NC TOPPS⁴

October 1, 2010-December 31, 2010

Consumer Identified Needs at Admission Combined with Help Provided During Treatment for **Decreasing Tobacco Use**

ADATC	Needed and Helped	Needed and Not Helped	Not Needed and Helped	Not needed and Not Helped
WBJ	57%	8%	23%	12%
State-Wide	37%	18%	22%	22%
JFK	23%	26%	19%	31%

In the tobacco free pilot site:

- 80% of individuals were helped in decreasing tobacco use vs. 59% and 42%
- 88% recognized need for help in decreasing tobacco use during admission vs 77% and 69%
- Only 8% that thought they needed help decreasing tobacco use were not helped vs. 18% and 26% that were not helped in the other sites

Financial Impact

The average monthly cost of nicotine replacement therapy prior to implementing a tobacco free campus was \$1,507.64 and after implementing a tobacco free campus the average monthly cost of nicotine replacement therapy was \$2,627.98. There were no other costs of significance. Through management of the overall pharmacy system budget, there was no facility impact.

⁴ NC - Treatment Outcomes and Program Performance System state-wide database managed by NC DMH/DD/SAS that matches consumer identified needs at admission with help provided during treatment. Reporting for the period October, 2010-December, 2010. At admission, clients were asked if they need help decreasing tobacco use and at discharge, clients were asked if they received help decreasing tobacco use.

Statewide ADATCs = 445 matched interviews

WBJ ADATC = 182 matched interviews

JFK ADATC = 182 matched interviews

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12. Tobacco Information and Prevention Source. (n.d.). *Center for Disease Control and Prevention*. Retrieved March 17, 2009, from <http://www.cdc.gov/tobacco.pdf>.