



**SCHOOL OF
PUBLIC HEALTH**

University of Medicine & Dentistry of New Jersey

UMDNJ – School of Public Health

Tobacco Dependence Clinic

Annual Report 2004

January 1, 2004 – December 31, 2004



Tobacco Dependence Clinic at UMDNJ - School of Public Health Annual Report 2004

Summary

The Tobacco Dependence Clinic at UMDNJ – School of Public Health saw 643 new patients for assessment in 2004, and over 95% of those patients made an attempt to quit tobacco by setting a target quit date with the clinic. The majority of patients seen were female (54%), but there was a higher proportion of male patients (46%) than in previous years. The racial and ethnic makeup of our patient population has become more diverse. In 2004, 25% of the clinic’s patients identified themselves as African American and 11% as Hispanic/Latino. In addition, the clinic has seen an increasing proportion of patients who are unemployed (20%), without health insurance coverage (30%), or who had not completed a high school education (16%). The average age of our patients has decreased from 46 in 2002 to 39 in 2004. The clinic has also seen a rise in the percentage of patients who were referred to the clinic from friends and family (34%), which suggests that “word-of-mouth” referral is a major factor in the increasing number of patients attending the clinic. The average patient seen at the clinic in 2004 was a pack-a-day smoker who smoked within half an hour of waking in the morning, has been smoking for over 20 years, and had already tried to quit at least four times before.

Of the 614 patients who made a quit attempt in 2004, more than three-quarters were reached for follow-up after 4 weeks, and 70% were reached for follow-up after 6 months. Assuming those not reached for follow-up continued smoking at the same rate as at assessment, the quit rates for 2004 were 40% and 24% at 4 weeks and 6 months, respectively. An additional 16% and 14% reduced their cigarette consumption by at least 50% at the 4-week and 6-month follow-up points.

Ninety percent of the patients at the clinic reached for 4-week follow-up used nicotine replacement therapy/cessation medications in 2004, and the nicotine patch and inhaler were the most widely used medications. Of those patients reached for 4-week follow-up, 69% used combination pharmacotherapy (2 or more medications together) in 2004. Abstinence rates were approximately twice as high in patients who used medications than in those who did not, and were also twice as high among those attending at least five appointments as compared with those attending only one. A total of 393 patients completed a patient satisfaction questionnaire, of whom 96% rated the service as excellent (76%) or good (20%).

Over the first four years of operation, the Tobacco Dependence Clinic at UMDNJ - School of Public Health has treated over 1,600 patients, of whom 27% remained free of tobacco six months later. This compares well with the quit rate of 22% in 55 trials of “high intensity” treatment reviewed in the Public Health Service Clinical Practice Guidelines. The clinic’s thorough individual assessment, combined group and individual counseling, plus combination pharmacotherapy provides a highly effective treatment for tobacco dependence. The clinic aims to continue to provide state-of-the-art tobacco dependence treatment to the diverse population of New Jersey smokers who require specialist services to overcome their addiction to tobacco.

Introduction

The Tobacco Dependence Clinic at UMDNJ - School of Public Health is funded by the New Jersey Department of Health and Senior Services to provide a specialist tobacco dependence treatment service to the local community and also to provide a tertiary referral and consultation service to health professionals throughout New Jersey. The clinic is the clinical service component of the Tobacco Dependence Program at UMDNJ - School of Public Health, which has a wider role in education, treatment, research, and advocacy to reduce the harm to health caused by tobacco.

A number of professional specialists in tobacco dependence treatment have provided clinical services, including Donna Richardson LCSW LCADC CTTS (Clinic Coordinator), Stacey Zelenetz LCSW, Michael Steinberg MD MPH (Clinic Medical Director), Jill Williams MD, Michael Burke EdD, and Jonathan Foulds PhD (Director, Tobacco Dependence Program). The clinic has also benefited from input from other staff and faculty at the Tobacco Dependence Program including Doug Ziedonis MD MPH, psychiatry residents from Robert Wood Johnson Medical School receiving specialist training in addiction psychiatry, public health graduate students from UMDNJ - School of Public Health, and social work trainees from Rutgers Graduate School of Social Work. The clinic provides a multidisciplinary approach to tobacco dependence treatment, based on the evidence-based assessment and treatment procedures outlined in the US Public Health Service Clinical Practice Guideline on Treating Tobacco Use and Dependence¹ and the New Jersey Guidelines for Tobacco Dependence Treatment². The clinical staff is also involved in training and consulting to the network of tobacco dependence treatment clinics throughout New Jersey known as New Jersey Quitcenters, and to other providers of tobacco treatment.

Patients contact the clinic through referral from their health-care provider, or via self-referral. The clinic is centrally located in New Brunswick at 317 George Street, Suite 210. Parking is available and the clinic is easily accessible via public transportation. Patients typically call to set up an appointment (732-235-8222) and this is usually scheduled within a week of first telephone contact. Efforts are also made to see patients who may walk into the clinic without a scheduled appointment.

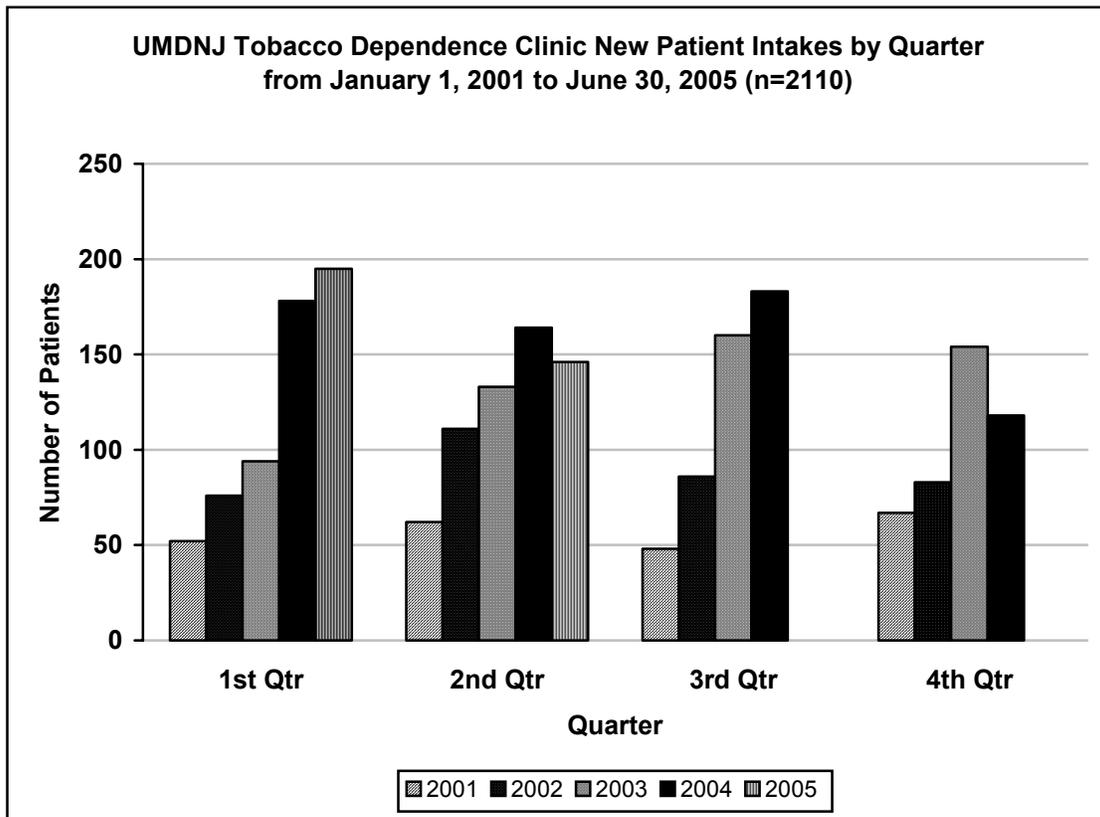
This report summarizes the direct clinical work carried out at the Tobacco Dependence Clinic from its launch in January, 2001 through to December, 2004. The report includes detailed descriptions of our patients as well as short-term and medium-term outcomes.

Patient Volume

Patient Intake Assessments

The Tobacco Dependence Clinic first started seeing patients in January, 2001, and by June 30, 2005 has seen 2,110 patients for initial assessment. As shown in Figure 1 below, the number of patient intake assessments has increased consistently over time since the clinic opened, and 643 patients were assessed in 2004, an increase of 19% from the previous year.

Figure 1: Number of new patient intake assessments at the UMDNJ Tobacco Dependence Clinic each quarter from January 1, 2001, to June 30, 2005.



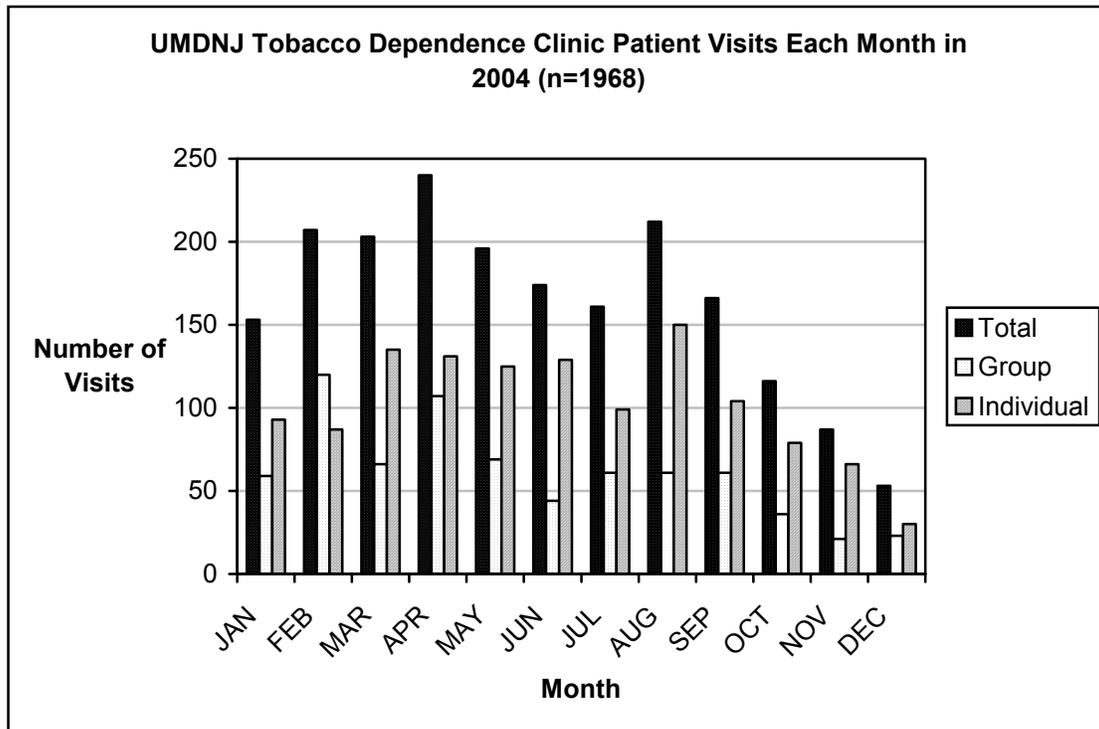
Total Patient Visits

There were a total of 1,968 patient contacts with the clinic from January 1, 2004, to December 31, 2004. The majority of these contacts were individual one-on-one counseling sessions between patients and clinicians (62%). There were 728 patient visits for group sessions (37%), as well 12 telephone sessions (1%).

Figure 2 shows the seasonal trend in patient visits that has been typical of the clinic over the years, namely an increase in visits during the first few months of the year and a steady decline in visits during the autumn and winter months. In addition, changes in staffing

that occurred in November and December are likely to explain the decrease in patient volume during those months in 2004.

Figure 2: Number of patient visits each month at the UMDNJ Tobacco Dependence Clinic from January 1, 2004, to December 31, 2004.



Demographic Characteristics of Patients

The demographic characteristics of patients seen at the Tobacco Dependence Clinic are shown in the tables and figures on the following pages.

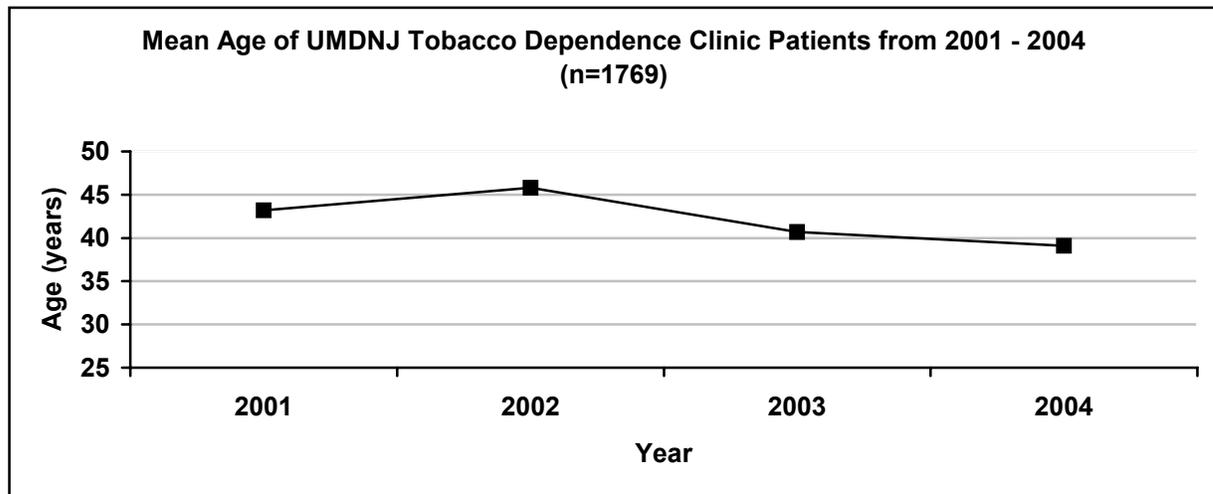
Age

The mean age of patients seen at the clinic in 2004 was 39.1 years of age, with a range from 14 to 74 years of age. As shown in Figure 3, the mean age of patients has continued to decrease since 2002, as the clinic has seen a younger clientele.

Table 1: Age characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)		2002 (n = 356)		2003 (n = 540)		2004 (n = 643)		Total (n = 1769)	
Age (years)	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
	43.2	15-75	45.8	15-80	40.7	15-75	39.1	14-74	41.2	14-80

Figure 3: Age characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).



Gender

The clinic continued to see an increasing proportion of male patients in 2004, but the majority of clients (54%) were female in 2004.

Table 2: Gender characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Gender	Number (%)				
Male	83 (36.1%)	140 (39.3%)	235 (43.5%)	293 (45.6%)	751 (42.5%)
Female	147 (63.1%)	216 (60.7%)	305 (56.5%)	350 (54.4%)	1018 (57.5%)

Patients with Children

In 2004, approximately half of the patients seen at the clinic had a child/children (51%), and approximately half of those had a child/children under the age of 19 (56%).

Table 3: Patients with children assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Children	Number (%)				
Patients with children	135 (57.8%)	213 (59.8%)	293 (54.2%)	326 (50.7%)	967 (54.7%)
Patients with children under 19 years old	71 (30.8%)	90 (25.3%)	165 (30.5%)	181 (28.1%)	507 (28.7%)

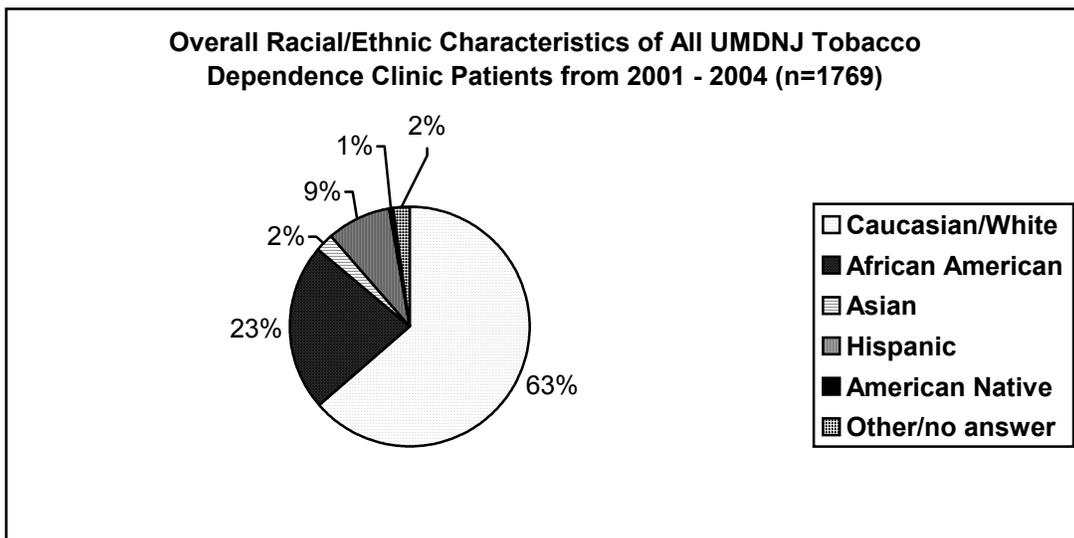
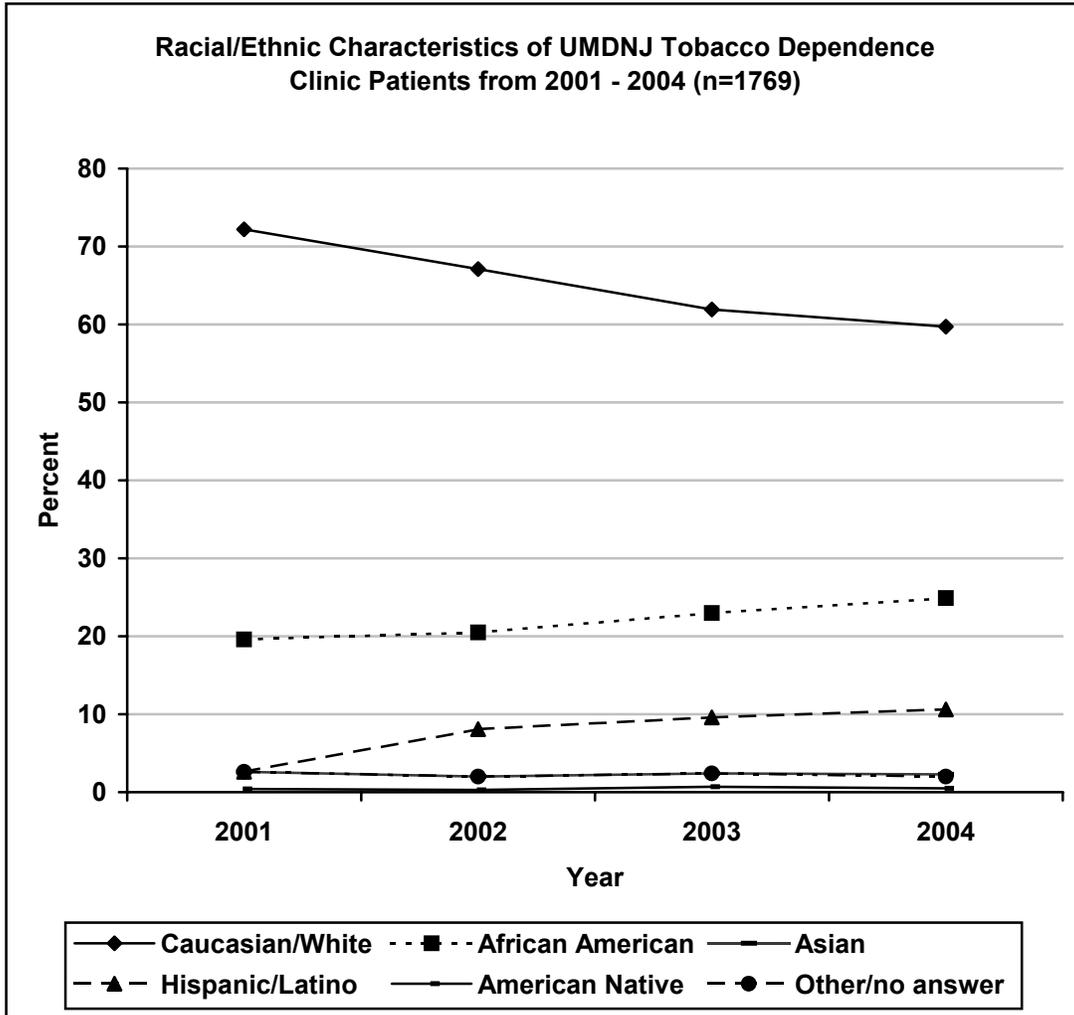
Race and Ethnicity

The clinic has seen increasing diversity among its patient population since its inception in 2001. In particular, the proportion of African American patients (25%) and Hispanic/Latino patients (11%) seen at the clinic has increased over the years.

Table 4: Racial/ethnic characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Race/ethnicity	Number (%)				
Caucasian/White	166 (72.2%)	239 (67.1%)	334 (61.9%)	384 (59.7%)	1123 (63.5%)
African American	45 (19.6%)	73 (20.5%)	124 (23.0%)	160 (24.9%)	402 (22.7%)
Asian	6 (2.6%)	7 (2.0%)	13 (2.4%)	15 (2.3%)	41 (2.3%)
Hispanic/Latino	6 (2.6%)	29 (8.1%)	52 (9.6%)	68 (10.6%)	155 (8.8%)
American Native	1 (0.4%)	1 (0.3%)	4 (0.7%)	3 (0.5%)	9 (0.5%)
Other/no answer	6 (2.6%)	7 (2.0%)	13 (2.4%)	13 (2.0%)	39 (2.2%)

Figure 4: Racial/ethnic characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).



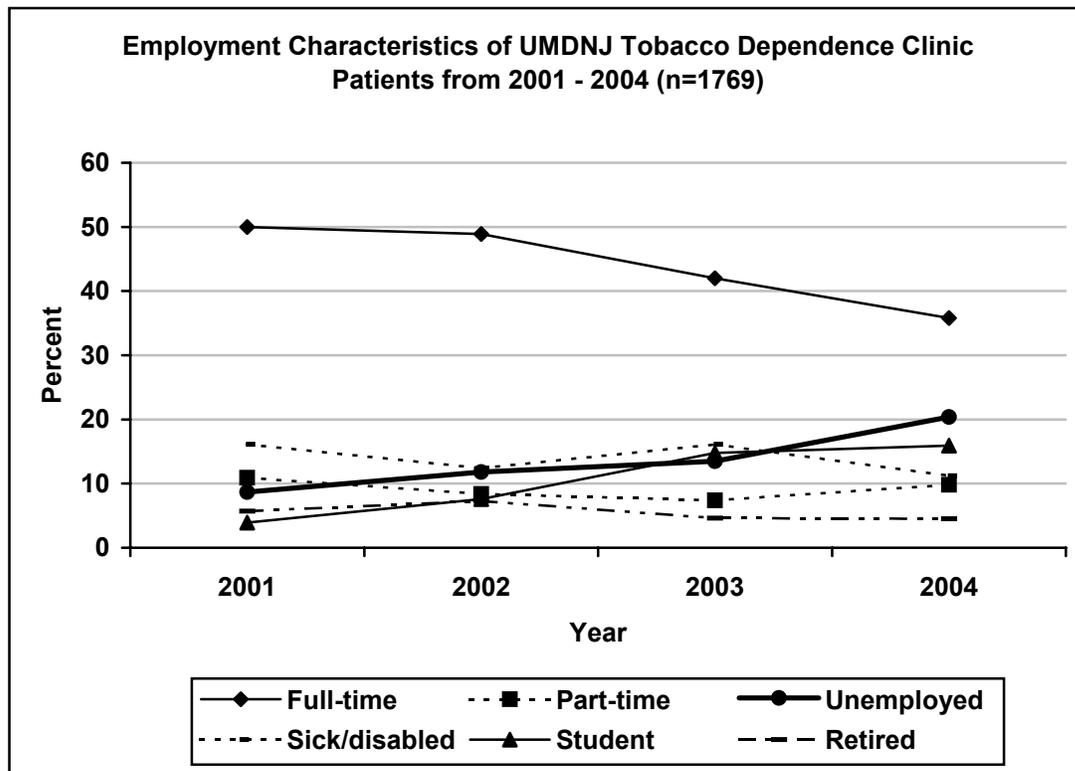
Employment

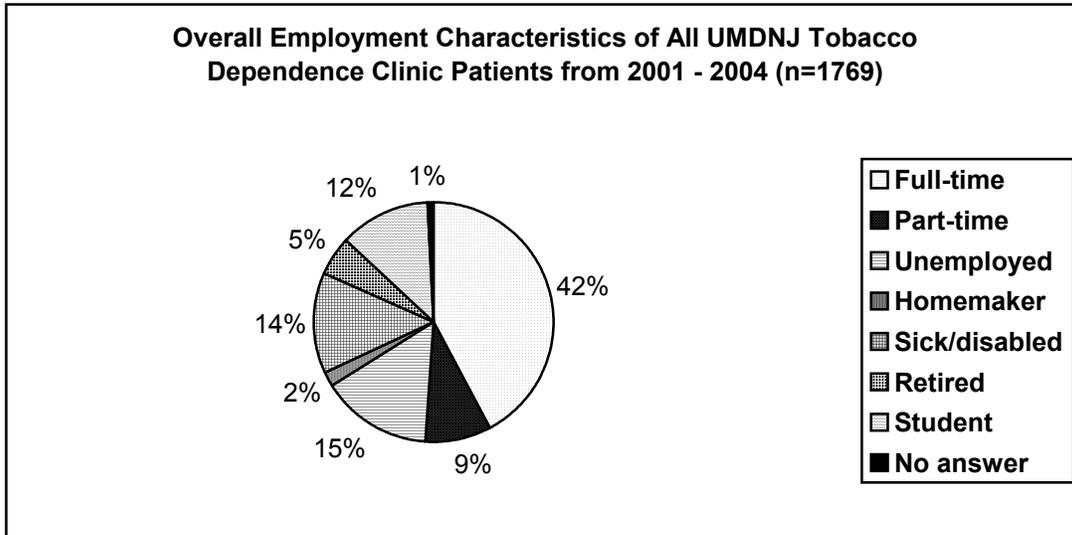
Approximately one-third of patients seen in 2004 were employed full-time (36%), a proportion that has decreased steadily since the clinic opened. Concomitantly, the clinic has seen a rise in the proportion of unemployed (20%) and students (16%) seeking treatment.

Table 5: Employment characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Employment status	Number (%)				
Full-time	115 (50.0%)	174 (48.9%)	227 (42.0%)	230 (35.8%)	746 (42.2%)
Part-time	25 (10.9%)	30 (8.4%)	40 (7.4%)	63 (9.8%)	158 (8.9%)
Homemaker	11 (4.8%)	10 (2.8%)	7 (1.3%)	6 (1.0%)	34 (1.9%)
Unemployed	20 (8.7%)	42 (11.8%)	73 (13.5%)	131 (20.4%)	266 (15.0%)
Sick/disabled	37 (16.1%)	44 (12.4%)	87 (16.1%)	72 (11.2%)	240 (13.6%)
Retired	13 (5.7%)	26 (7.3%)	25 (4.6%)	29 (4.5%)	93 (5.3%)
Student	9 (3.9%)	27 (7.6%)	80 (14.8%)	102 (15.9%)	218 (12.3%)
No answer	-	3 (0.8%)	1 (0.2%)	10 (1.6%)	14 (0.8%)

Figure 5: Employment characteristics of patients assessed at the Tobacco Dependence Clinic during 2001-2004 (n=1769).





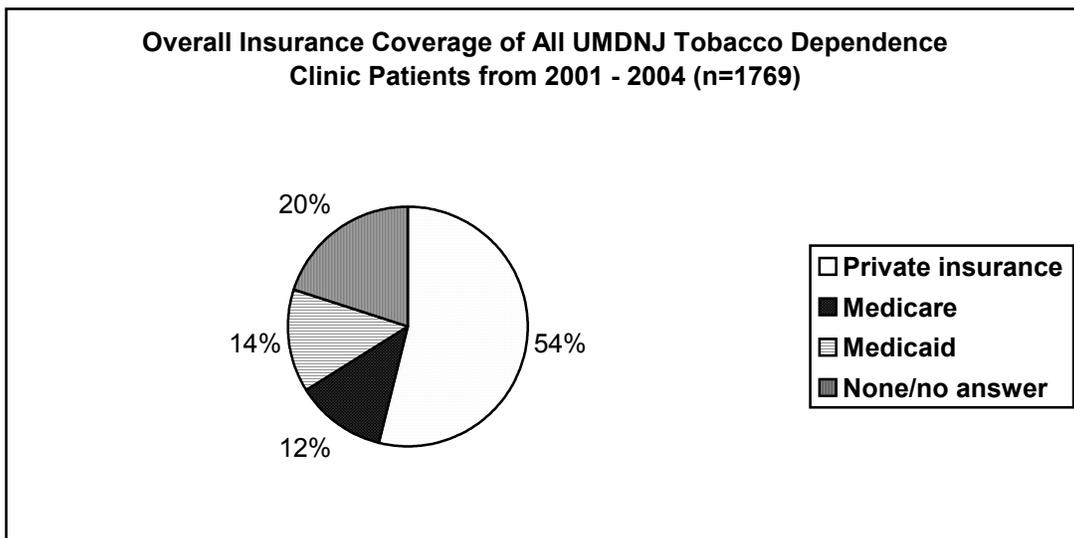
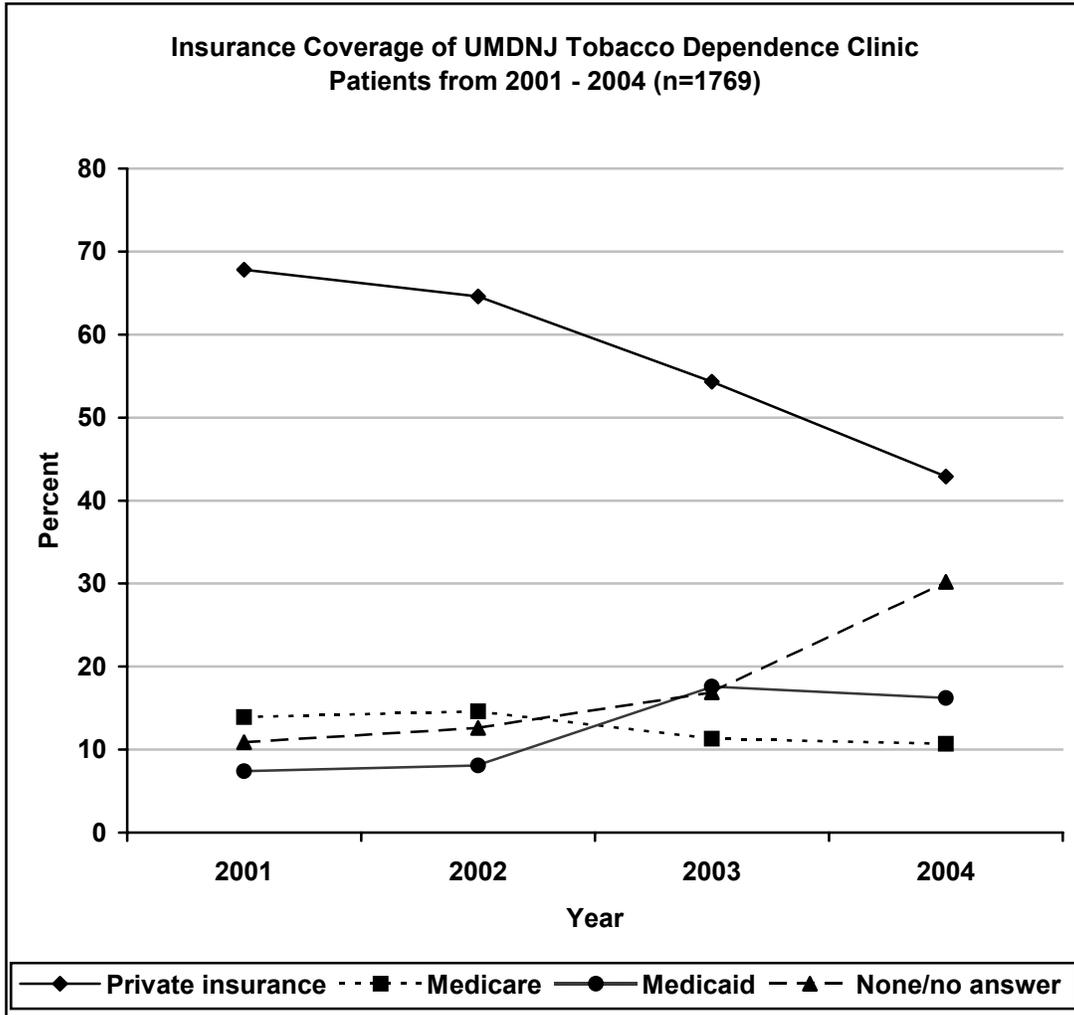
Health Insurance

In 2004, almost one-third of patients seen did not report health insurance coverage (30%), a nearly two-fold increase since 2003 (17%) and three-fold increase since 2001 (11%). The proportion of patients covered by Medicaid has also doubled since 2001, from 7.4% to 16.2% in 2004. 2004 was the first year in which less than half of the clinic’s patients had private health insurance.

Table 6: Insurance type of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Insurance type	Number (%)				
Private insurance	156 (67.8%)	230 (64.6%)	293 (54.3%)	276 (42.9%)	955 (54.0%)
Medicare	32 (13.9%)	52 (14.6%)	61 (11.3%)	69 (10.7%)	214 (12.1%)
Medicaid	17 (7.4%)	29 (8.1%)	95 (17.6%)	104 (16.2%)	245 (13.8%)
None/no answer	25 (10.9%)	45 (12.6%)	91 (16.9%)	194 (30.2%)	355 (20.1%)

Figure 6: Insurance coverage of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).



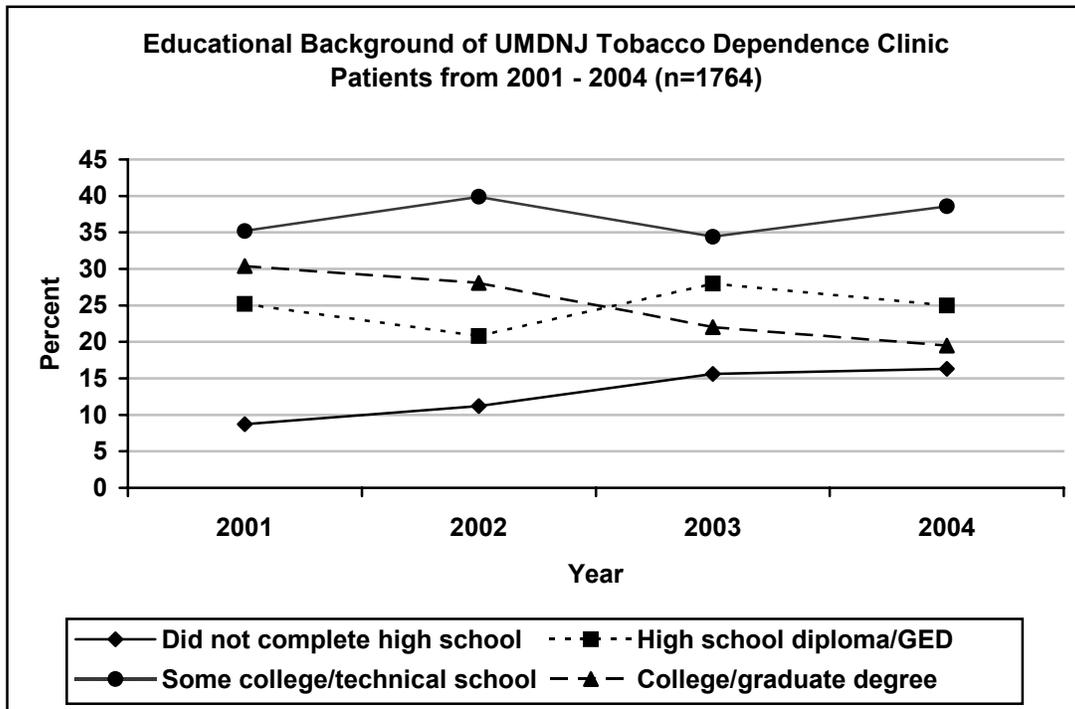
Educational Background

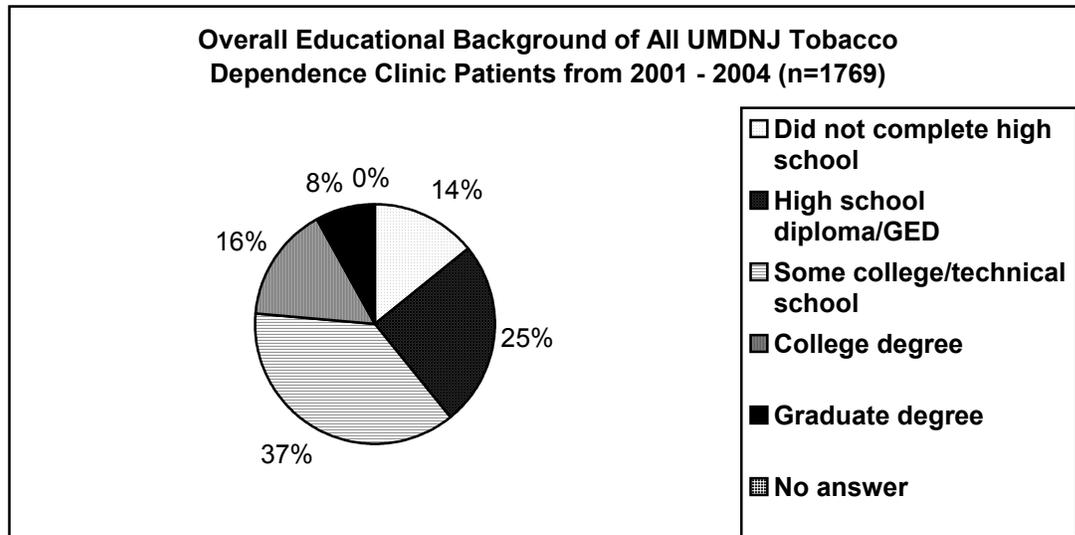
The proportion of patients seen at the clinic in 2004 without a high school education was 16%, the highest ever in the clinic's four years of operation, and the proportion of patients with a higher education (college or graduate degree) was approximately 20% in 2004, which has declined steadily from 31% in 2001.

Table 7: Educational background of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Educational background	Number (%)				
Did not complete high school	20 (8.7%)	40 (11.2%)	84 (15.6%)	105 (16.3%)	249 (14.1%)
High school diploma or GED	58 (25.2%)	74 (20.8%)	151 (28.0%)	161 (25.0%)	444 (25.1%)
Some college or technical school	81 (35.2%)	142 (39.9%)	186 (34.4%)	248 (38.6%)	657 (37.1%)
College degree	50 (21.7%)	65 (18.3%)	73 (13.5%)	88 (13.7%)	276 (15.6%)
Graduate degree	20 (8.7%)	35 (9.8%)	46 (8.5%)	37 (5.8%)	138 (7.8%)
No answer	1 (0.4%)	-	-	4 (0.6%)	5 (0.3%)

Figure 7: Educational background of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1764).





Referral Source

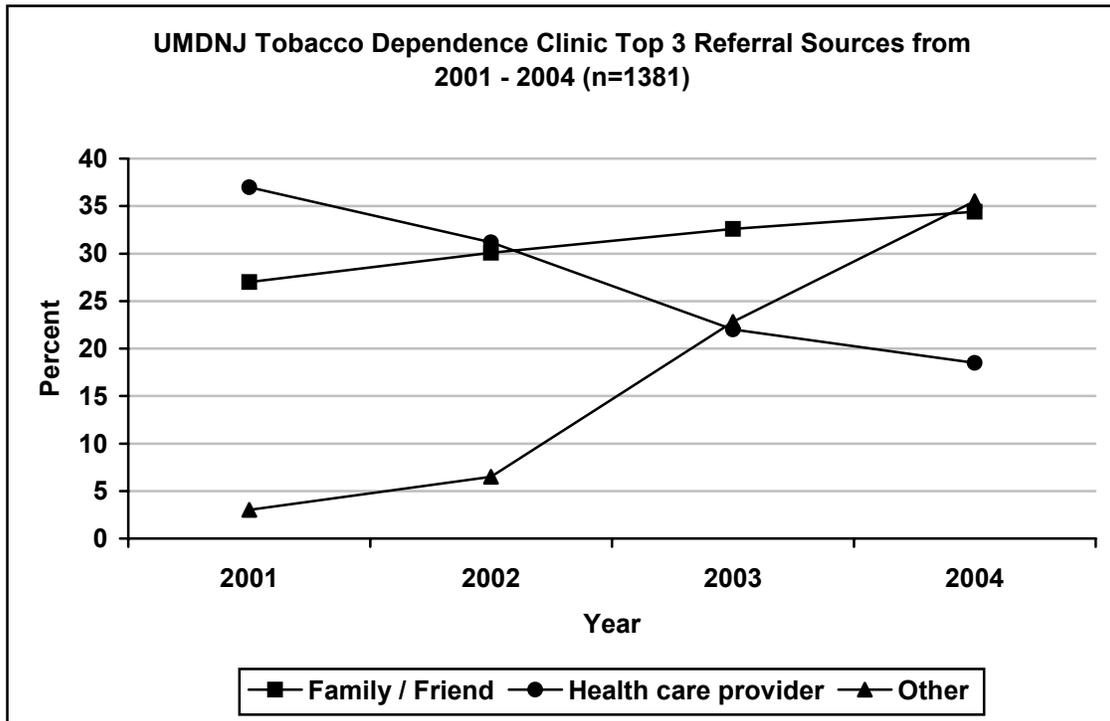
Family/friends, health care providers, and other referral sources remain the top three sources of referral to the clinic for patients in 2004. Health care providers (including physicians, nurses, and dentists) comprised a smaller proportion of referrals for the clinic, while family/friends comprised an increasing source of referrals. This is largely a result of previous patients encouraging their family and friends to attend. NJ Quitline and NJ Quitnet, two major smoking cessation resources in the state, remained insignificant referral sources for the clinic in 2004 (less than 2% together in 2004).

Table 8: Referral source of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Referred by	Number (%)				
Health care provider	85 (37.0%)	111 (31.2%)	119 (22.0%)	119 (18.5%)	434 (24.5%)
Family/friend	62 (27.0%)	107 (30.1%)	176 (32.6%)	221 (34.4%)	566 (32.0%)
Newspaper/magazine	26 (11.3%)	20 (5.6%)	4 (0.7%)	10 (1.6%)	60 (3.4%)
Brochure/pamphlet	10 (4.3%)	28 (7.9%)	40 (7.4%)	20 (3.1%)	98 (5.5%)
Volunteer organization	9 (3.9%)	7 (2.0%)	2 (0.4%)	1 (0.2%)	19 (1.1%)
Quitline	9 (3.9%)	1 (0.3%)	6 (0.1%)	2 (0.3%)	18 (1.0%)
Quitnet	4 (1.7%)	15 (4.2%)	11 (2.0%)	8 (1.2%)	38 (2.1%)
Employer/school	26 (11.3%)	26 (7.3%)	48 (8.9%)	12 (1.9%)	112 (6.3%)
Media	5 (2.2%)	3 (0.8%)	6 (0.1%)	7 (1.1%)	21 (1.2%)
Other	7 (3.0%)	23 (6.5%)	123 (22.8%)	228 (35.5%)	381 (21.5%)
No answer	7 (3.0%)	9 (2.5%)	5 (0.9%)	14 (2.2%)	35 (2.0%)

*Total annual percentages > 100% due to multiple referral sources in some patients

Figure 8: Top three referral sources of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).



Clinical Indicators of Tobacco Dependence

The following data summarize the characteristics and clinical indicators of tobacco use in patients seen at the Tobacco Dependence Clinic.

Tobacco Use Characteristics

As shown in Table 9 below, the patterns of tobacco use among the clinic's patients have remained fairly consistent over the years. However, the mean number of prior quit attempts in our patients has dropped dramatically, from an average of 9 prior quit attempts in 2001 to an average of 5 prior quit attempts in 2004.

Table 9: Tobacco use characteristics of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Tobacco use pattern	Mean	Mean	Mean	Mean	Mean
How many years used	23.0	26.2	22.4	21.3	22.8
Cigarettes/day	23.3	22.2	21.1	20.4	21.4
Minutes before first cigarette	26.5	27.0	28.8	24.5	26.6
Prior quit attempts	8.6	7.5	6.5	4.6	6.3
Expired CO (ppm)	18.7	18.8	15.8	16.1	16.9

Clinical Indicators

Several key clinical indicators shown in Table 10 below have changed among clients seen at the clinic in 2004. Although the percentage of pack/day or more smokers declined to 60% in 2004, the proportion of patients who reported waking up at night to smoke increased to 54%. One possible explanation for this is that as the price of cigarettes has increased (including significant increases in state excise tax), people are buying and smoking fewer cigarettes, but are just as addicted, as evidenced by increased waking at night to smoke.

There has been a steady drop in the proportion of patients with prior mental health treatment, from 57% in 2001 to 44% in 2004. Likewise, a smaller percentage of patients at the clinic are smoking "light" cigarettes in 2004 (49%) than in 2001 (58%). However, the percentage of patients smoking menthol cigarettes has grown continuously from 37% in 2001 to 52% in 2004. This is likely to be related to the increasing proportion of African American and Hispanic/Latino patients seen at the clinic, as menthol cigarette use is predominant in these populations (Table 11).

Table 10: Clinical indicators of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2001-2004 (n=1769).

	2001 (n = 230)	2002 (n = 356)	2003 (n = 540)	2004 (n = 643)	Total (n = 1769)
Indicator	Number (%)				
Pack/day or more smoker	151 (65.7%)	270 (75.8%)	356 (65.9%)	388 (60.3%)	1165 (65.9%)
Smoking within 30 minutes of waking	185 (80.4%)	305(85.7%)	434 (80.4%)	524 (81.5%)	1448 (81.9%)
Waking at night to smoke	106 (46.1%)	167 (46.9%)	255 (47.2%)	349 (54.3%)	877 (49.6%)
Smoking caused health problem	143 (62.2%)	206 (57.9%)	302 (55.9%)	361 (56.1%)	1012 (57.2%)
Prior mental health treatment	131 (57.0%)	182 (51.1%)	270 (50%)	285 (44.3%)	868 (49.1%)
Prior addiction treatment	62 (27.0%)	84 (23.6%)	163 (30.2%)	167 (26.0%)	476 (26.9%)
Smoking "light" cigarettes	133 (57.8%)	208 (58.4%)	268 (49.6%)	312 (48.5%)	921 (52.1%)
Smoking menthol cigarettes	86 (37.4%)	116 (32.6%)	257 (47.6%)	335 (52.1%)	794 (44.9%)

Table 11: Menthol cigarette use by race/ethnicity of patients assessed at the UMDNJ Tobacco Dependence Clinic during 2004 (n=643).

Race/ethnicity	Number who smoke menthol cigarettes in 2004 (% of patients of that race/ethnicity)
Caucasian/White	147 (38.3%)
African American	126 (78.8%)
Asian	5 (33.3%)
Hispanic/Latino	46 (67.6%)
American Native	3 (100%)
Other/no answer	7 (77.8%)

Treatment and Outcomes

Group Sessions and Pharmacotherapy

All patients at the clinic receive a comprehensive assessment, usually consisting of at least a one-hour appointment. Most patients are then treated with a combination of individual or group counseling, plus pharmacotherapy. Patients who cannot attend groups are seen individually at hours to suit their needs, and where there is sufficient demand, assessments and treatments can be provided on-site at workplaces or educational institutions.

Abstinence rates at the clinic are strongly and positively related to the number of treatment sessions attended, and the number of medications used. Patients who use multiple medications and use them for longer periods of time have significantly higher success rates in quitting³. The clinic continues to encourage patients to make use of group treatment (typically a new group starting on a Tuesday evening every 7 weeks), our relapse prevention group (typically every Thursday evening), and an appropriate combination of nicotine replacement therapy/cessation medications. The outcomes of our 6-week group treatment are described in detail in our 2002 annual report, and the analyses of our 2001-2003 data⁴ found that patients participating in group treatment have significantly better 6-month outcomes than those receiving only individual treatment (41.3% vs 28.7%).

Ninety percent of the patients reached for follow-up after 4 weeks reported use of nicotine replacement therapy/cessation medications in 2004. Of these, the most used medications were the nicotine patch (85% of patients used) and the nicotine inhaler (47% of patients used). Over two-thirds (69%) of the patients reached for 4-week follow-up used combination pharmacotherapy (two or more medications together).

Table 12: Use of nicotine replacement therapy/cessation medications among patients at the UMDNJ Tobacco Dependence Clinic in 2004 (n=421).

Medication	Number of Patients Using in 2004 (%)
Gum	139 (33.0%)
Patch	362 (86.0%)
Nasal Spray	12 (2.9%)
Inhaler	199 (47.3%)
Zyban/Wellbutrin	78 (18.5%)
Lozenges	113 (26.8%)

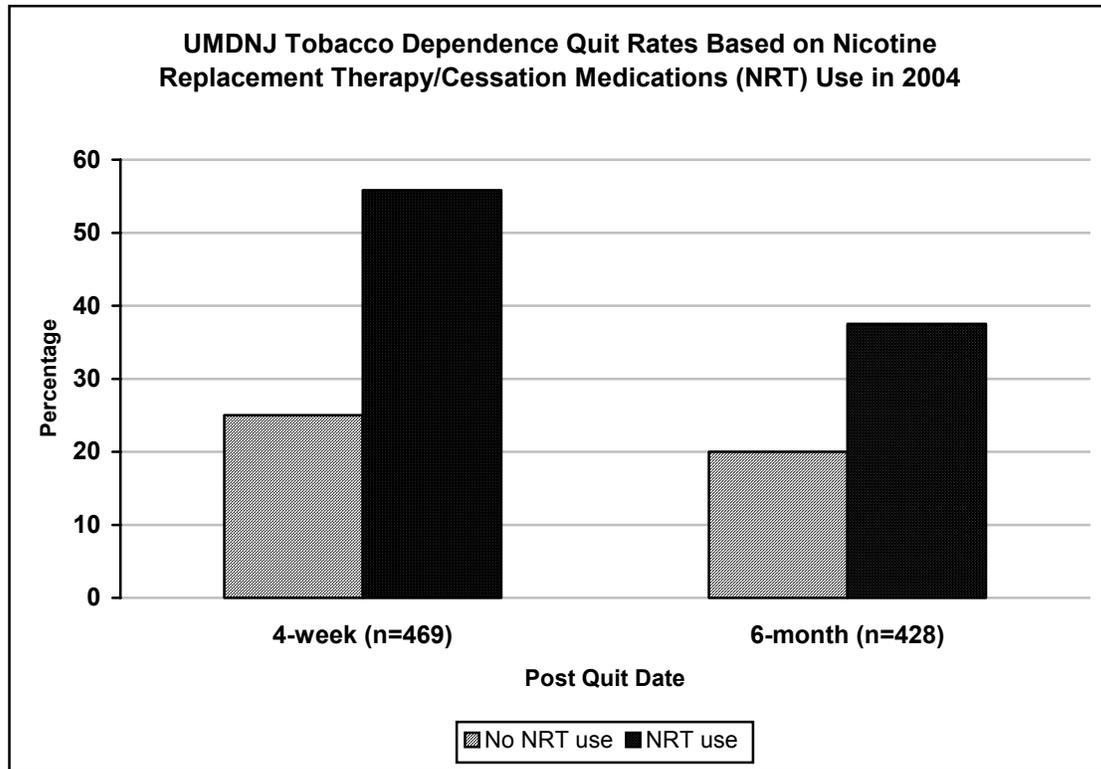
*Total percentages > 100% due to use of multiple medications in patients

Table 13: Use of combination pharmacotherapy among patients at the UMDNJ Tobacco Dependence Clinic in 2004 (n=469).

Number of Medications Used	Number of Patients Using in 2004 (%)
0	48 (10.2%)
1	97 (20.7%)
2	190 (40.5%)
3 or more	134 (28.6%)

As Figure 9 below shows, among the patients who were successfully followed-up, those who used nicotine replacement therapy/cessation medications were approximately twice as successful in quitting than those patients who didn't, at both 4 weeks and 6 months post quit date. This data supports previous findings regarding the effectiveness of nicotine replacement therapy/cessation medications, and the clinic continues to integrate medications as an important part of treatment.

Figure 9: Quit rates at the UMDNJ Tobacco Dependence Clinic based on use of nicotine replacement therapy/cessation medications in 2004 (n=469 for 4-week, n=428 for 6-month).



Outcomes

Of the 643 patients assessed at the clinic in 2004, 614 chose a quit date and planned to attempt to stop smoking at the clinic (95%). Seventy-six percent of patients were followed-up at 4 weeks post quit date, and 70% were followed-up at 6 months post quit date. The following data were compiled from those patients who were reached for follow-up. Any patient who set a quit date but was not reached for follow-up was counted as continuing to smoke at least the same amount of cigarettes as at intake. The clinic defines abstinence/quitting as a self-report of “no use of tobacco” during the previous seven days (verified by an expired carbon monoxide measurement of less than 10 parts per million in those followed-up at the clinic). Significant reduction at follow-up is defined as smoking half or less than half of the number of cigarettes per day as were smoked prior to treatment.

Outcomes 4 Weeks Post Quit Date

As shown in Table 14 below, 247 of the patients reported short-term abstinence from tobacco after 4 weeks (40%). An additional 96 patients reported smoking significantly less than before treatment (16%).

Outcomes 6 Months Post Quit Date

As shown in Table 14 below, 150 of the patients reported abstinence from tobacco at 6 months (24%). An additional 85 patients reported smoking significantly less than before treatment (14%).

Table 14: 4-week and 6-month follow-up data among patients seen for intake in 2004 and who set a quit date at the UMDNJ Tobacco Dependence Clinic (n=614).

4 weeks after quit date	Number	Percentage
Total patients who set a quit date	614	-
Total follow-ups	469	76%
Patients quit	247	40%
Patients smoking significantly less than at intake ($\leq 50\%$)	96	16%
Patients smoking less than at intake, but not significantly less	45	7%
Patients smoking at least as much as at intake*	226	37%

*Includes 145 patients (24%) who could not be contacted for follow-up

6 months after quit date	Number	Percentage
Total patients who set a quit date	614	-
Total follow-ups	428	70%
Patients quit	150	24%
Patients smoking significantly less than at intake ($\leq 50\%$)	85	14%
Patients smoking less than at intake, but not significantly less	72	12%
Patients smoking at least as much as at intake*	307	50%

*Includes 186 patients (30%) who could not be contacted for follow-up

Figure 10: 4-week and 6-month follow-up data among patients seen for intake in 2004 and who set a quit date at the UMDNJ Tobacco Dependence Clinic (n=614).

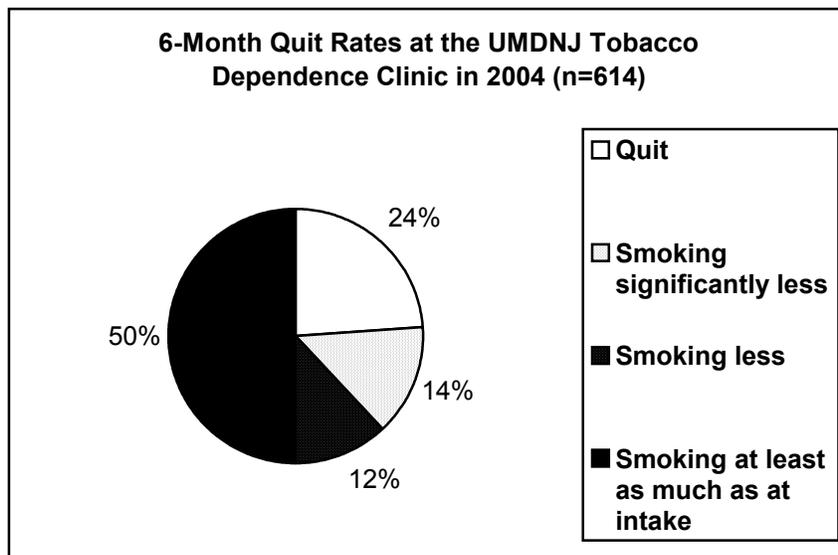
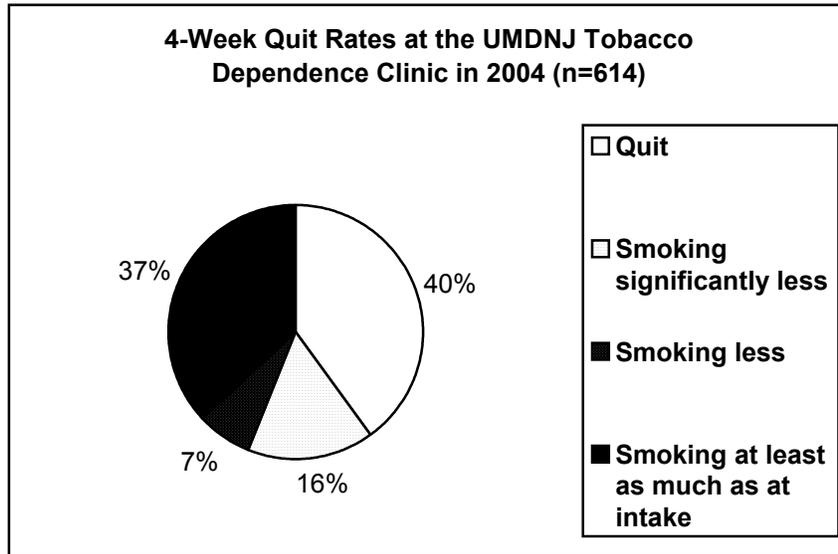


Figure 11: Summary of patients' quit rates at 4-weeks and 6-months post quit date for patients who set a quit date at the UMDNJ Tobacco Dependence Clinic from 2001 to 2004.

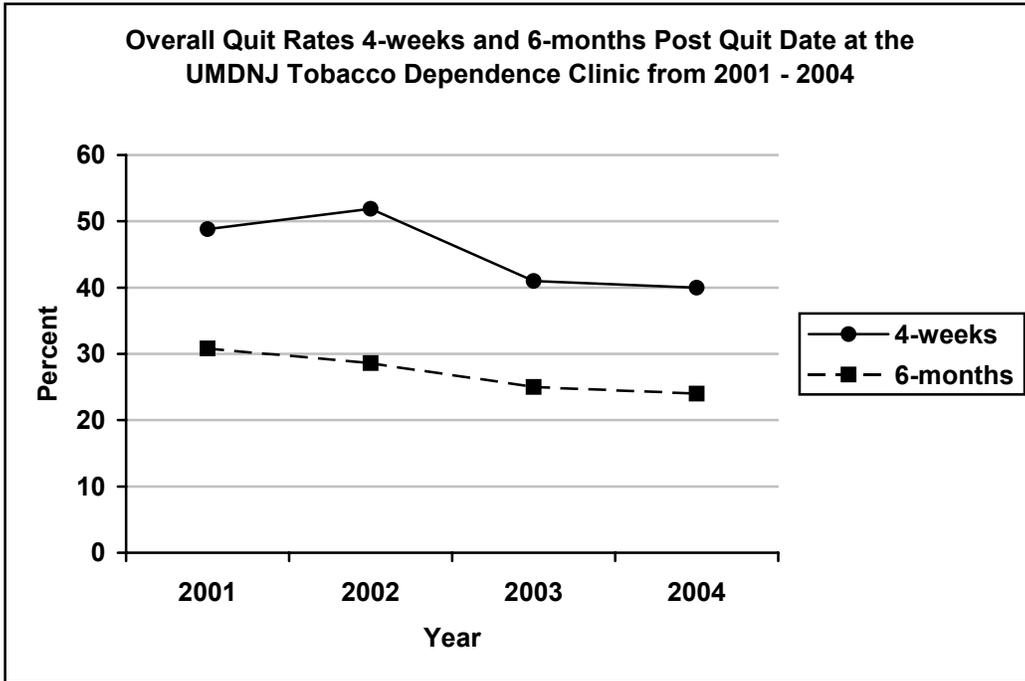


Figure 12: Summary of patients' follow-up rates at 4-weeks and 6-months post quit date for patients who set a quit date at the UMDNJ Tobacco Dependence Clinic from 2001 to 2004.

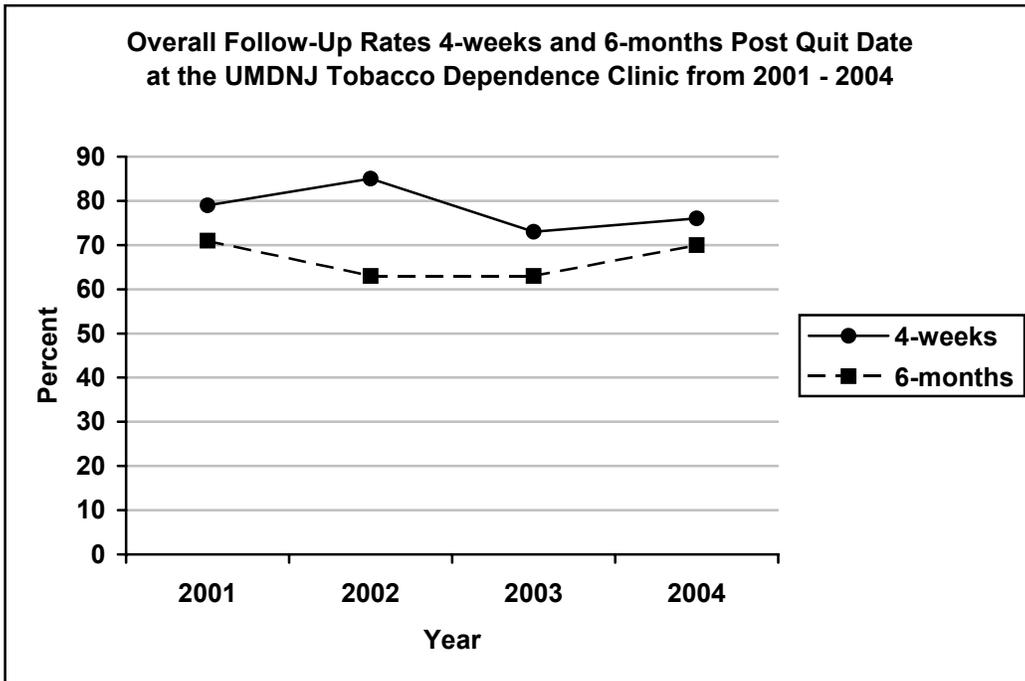


Table 15: Summary of patients' follow-up and smoking outcomes at the UMDNJ Tobacco Dependence Clinic at 4-weeks post quit date for patients assessed from 2001 to 2003, those assessed in 2004, and a total for all 4 years.

	4-weeks after quit date								
	2001-2003			2004			Total 2001-2004		
	Assessed	Set quit date	Successfully followed-up	Assessed	Set quit date	Successfully followed-up	Assessed	Set quit date	Successfully followed-up
Total patients	1126	1036 (92%)*	846 (82%)**	643	614 (95%)*	469 (76%)**	1769	1650 (93%)*	1315 (80%)**
Patients quit	42% (n=478)	46%	56%	38% (n=247)	40%	53%	41% (n=725)	44%	55%
Patients smoking significantly less (\leq 50% of cigarettes as at intake)	16% (n=179)	17%	21%	15% (n=96)	16%	20%	16% (n=275)	17%	21%
Patients smoking less, but not significantly less than at intake	7% (n=82)	8%	10%	7% (n=45)	7%	10%	7% (n=127)	8%	10%
Patients smoking at least as much or more as at intake***	34% (n=387)	29% (n=297)	13% (n=107)	40% (n=255)	37% (n=226)	17% (n=81)	36% (n=642)	32% (n=523)	14% (n=188)

* Percentage = number of quit dates set as a percentage of total number of assessments

** Percentage = number of follow-ups completed as a percentage of those with quit dates (intent to treat)

*** Includes patients who were unable to be reached for follow-up

Table 16: Summary of patients' follow-up and smoking outcomes at the UMDNJ Tobacco Dependence Clinic at 6-months post quit date for patients assessed from 2001 to 2003, those assessed in 2004, and a total for all 4 years.

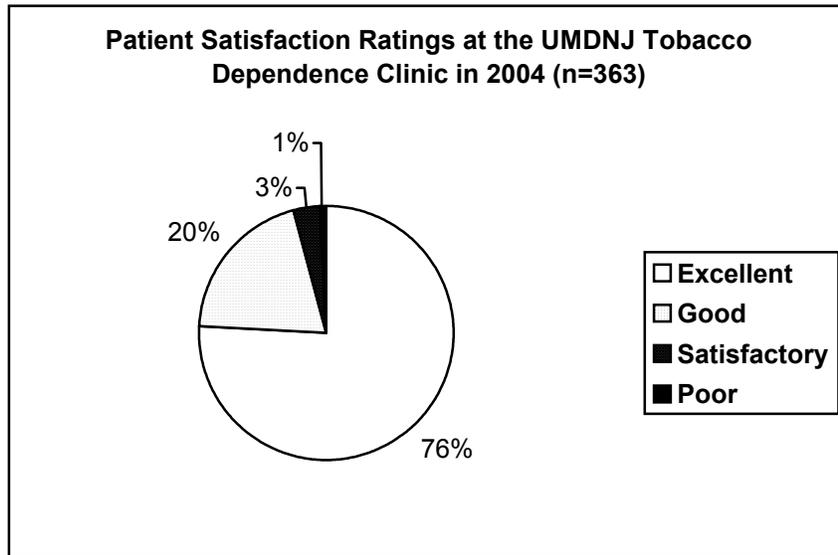
	6-months after quit date								
	2001-2003			2004			Total 2001-2004		
	Assessed	Set quit date	Successfully followed-up	Assessed	Set quit date	Successfully followed-up	Assessed	Set quit date	Successfully followed-up
Total patients	1126	1036 (92%)*	703 (68%)**	643	614 (95%)*	428 (70%)**	1769	1650 (93%)*	1131 (69%)**
Patients quit	26% (n=294)	28%	42%	23% (n=150)	24%	35%	25% (n=444)	27%	39%
Patients smoking significantly less (\leq 50% of cigarettes as at intake)	13% (n=151)	15%	22%	13% (n=85)	14%	20%	13% (n=236)	14%	21%
Patients smoking less, but not significantly less than at intake	10% (n=118)	11%	17%	11% (n=72)	12%	17%	11% (n=190)	12%	17%
Patients smoking at least as much or more as at intake***	50% (n=567)	46% (n=477)	20% (n=139)	52% (n=336)	50% (n=307)	28% (n=121)	51% (n=903)	48% (n=784)	23% (n=260)

* Percentage = number of quit dates set as a percentage of total number of assessments
 ** Percentage = number of follow-ups completed as a percentage of those with quit dates (intent to treat)
 *** Includes patients who were unable to be reached for follow-up

Patient Satisfaction

Of the 614 patients assessed in 2004, 363 completed patient satisfaction questionnaires (59%). As shown in Figure 13 below, 96% of those patients rated the clinic's services as good or excellent.

Figure 13: Patient satisfaction ratings at the UMDNJ Tobacco Dependence Clinic in 2004 (n=363).



Discussion and Conclusions

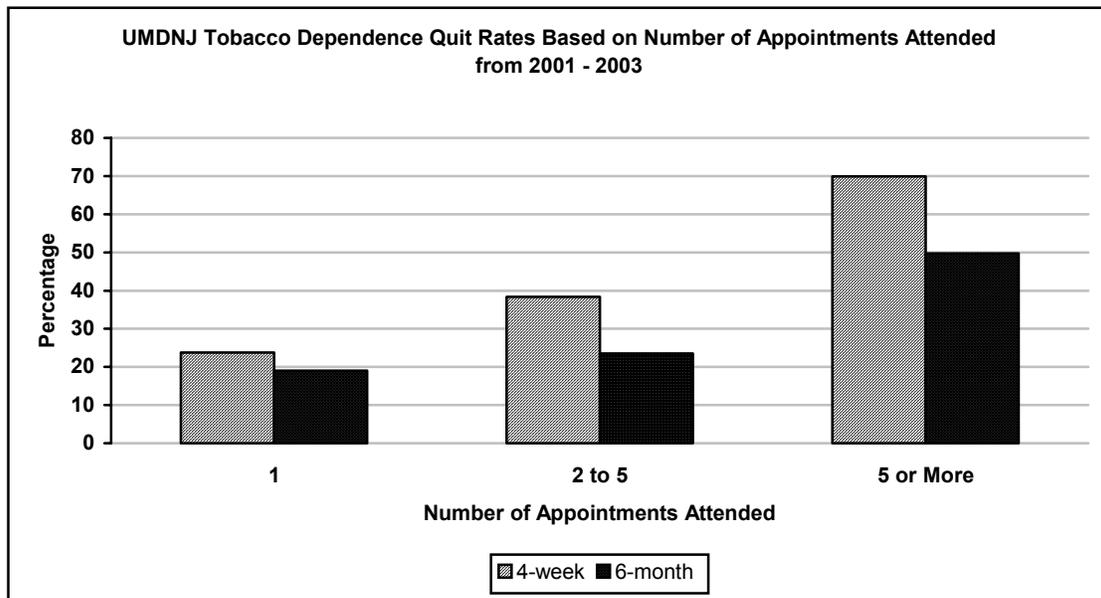
Factors Associated with Treatment Outcome

We have carried out some detailed analyses of baseline and treatment factors in order to identify which ones are predictive of treatment outcome (i.e. which factors appear to influence who succeeds in stopping smoking⁴).

In analyses of all the patients who made a quit attempt at the clinic during the first three years, 19 baseline and treatment variables were statistically related to outcome in univariate analyses. When we conducted multivariate analyses (i.e. controlling for other variables that are related to outcome) we found that those who were unemployed, had less education, had no private health insurance, smoked within 5 minutes of waking in the morning, and woke up at night to smoke, were less likely to be abstinent 6 months after their target quit date. However, those who used smoking cessation medications, attended more individual and group appointments, had two or more children, and were of older age (65 or over) were more likely to be abstinent from tobacco six months later.

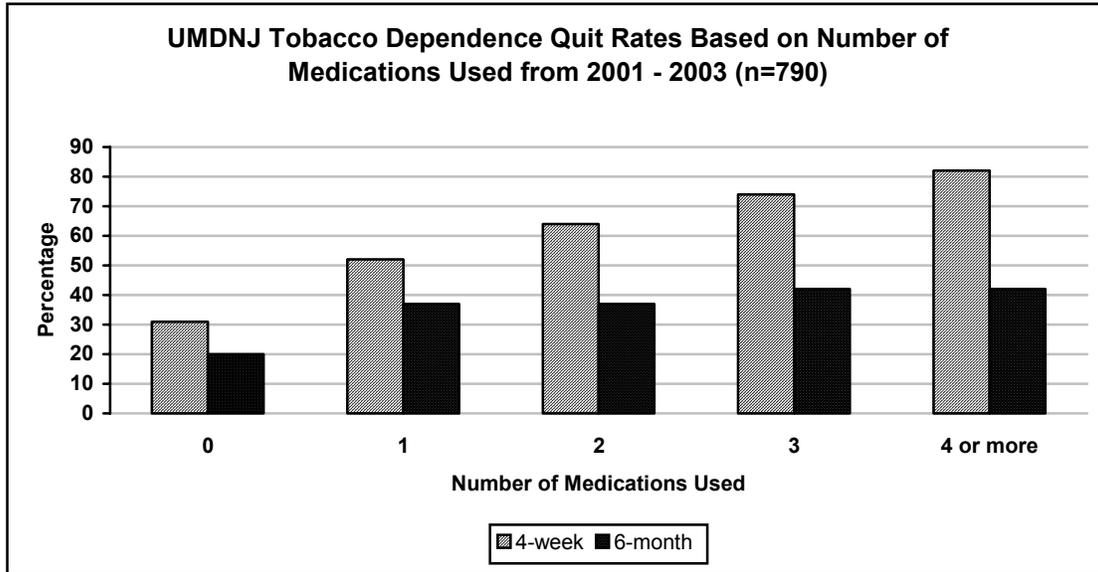
The 4-week and 6-month outcomes by number of appointments attended at the clinic are shown in Figure 14 below.

Figure 14: Quit rates at the UMDNJ Tobacco Dependence Clinic based on number of appointments attended from 2001 to 2003.



In a detailed analysis of the effects of medication use in a subset of patients (n=790) in whom we had complete data on medication use, we found that the more medications patients used, the better their outcomes were at 4-week follow-up, although this relationship was less strong by 6 months³. The quit rates by medication use are shown in Figure 15 below.

Figure 15: Quit rates at the UMDNJ Tobacco Dependence Clinic based on number of medications from 2001 to 2003 (n=790).



Twenty-seven percent of the patients continued to use medications at 6 months, and they had significantly higher 6-month abstinence rates (65%) than those who stopped their medications prior to the 6-month point (27%). It is a characteristic of treatment at the Tobacco Dependence Clinic that patients are advised to continue to use their medications until they have experienced fourteen consecutive days without significant cravings, withdrawal symptoms, or near lapses to smoking. This allows duration of pharmacotherapy to be tailored to individual patient need.

These results provide at least a partial explanation for why the clinic’s abstinence rates have fallen slightly over time. The clinic has had some success in reaching out to underserved populations (unemployed, uninsured, and young people) as well as those who are highly addicted (e.g. those who smoke within 30 minutes of waking in the morning). As mentioned earlier, each year the clinic has seen a larger proportion of those groups, and the proportion who wake at night to smoke has also increased. Given that all of these factors are predictive of lower chances of long term quitting, it is not surprising that the clinic’s overall quit rates have fallen slightly over time. Given that the more medications patients use and the more appointments attended, the better the quit rates are, the clinic will aim at improving compliance with both behavioral and pharmacological treatments being offered. It is also worth noting that over the four years covered by this report, the number of clients treated per year has almost tripled while the annual funding for the Tobacco Dependence Program has been cut significantly.

Conclusions

The Tobacco Dependence Clinic has continued to grow and improve its services through 2004. To date, we have treated over 2,000 patients, most of whom are highly addicted to tobacco. The average client seen at the clinic is a pack-a-day smoker who smokes within half an hour of waking and has been smoking for over 20 years, all of which are indicators of heavy tobacco dependence. The demographics of the patient population have continued to change over the four years that the clinic has been open. The clinic is seeing an increasing number of unemployed and minority patients, patients without health insurance coverage, and patients without higher education. More patients are being referred to the clinic through “word-of-mouth” via friends and family, many of whom were previous clinic patients who recommended the service.

Although our follow-up rates have improved from the previous year (3% and 7% increases at 4 weeks and 6 months, respectively), it should be noted that short-term and long-term quit rates dropped a percentage point each in 2004. We attribute this slight decrease to the changing demographics mentioned above; as discussed, evidence indicates that minority status, unemployment, lack of education and lack insurance are all negative predictive variables of smoking cessation. Nevertheless, the clinic has maintained very respectable overall quit rates over the past four years of 44% and 27% at 4 weeks and 6 months post quit date, respectively.

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Date: November 14, 2005

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