

Extending the 5Cs: The Health Plan Tobacco Cessation Index

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An annual direct medical care expenses for treatment of tobacco-attributable illnesses have been estimated at \$75 billion in the United States.¹ To improve treatment outcomes, the Public Health Service (PHS) Guideline recommends that tobacco dependence be considered a chronic condition that requires repeated intervention.² Hence, all smokers should receive practical cessation counseling combined with appropriate pharmacotherapy; this combination produces quit rates 5 times higher than quitting without assistance.³ Unfortunately, population-based research shows that most smokers who report making quit attempts do so without the benefit of recommended counseling and pharmacotherapy.⁴

Health insurance coverage for pharmacotherapy that is marketed to beneficiaries can lead to a drop in smoking prevalence.⁵ Appropriately, a Healthy People 2010 objective was to have 100% managed care coverage of evidence-based cessation interventions.⁶ BlueCross BlueShield of Minnesota (BCBSM) has suggested a 5C approach to cessation practices: Cover, Counsel, Capitalize, Collaborate, and Count.^{7,8} The 5C model complements the 5A approach to clinical treatment of smokers (Ask, Advise, Assess, Assist, and Arrange) and was designed to address gaps between recommended and actual cessation practices of health plans.⁷

In the 5C approach, Cover includes full coverage of first-line therapies for smoking cessation. Full coverage enhances the use of cessation services by smokers, compared with lesser coverage.⁹ Cover also assesses the adoption of written guidelines, reimbursement of healthcare providers for cessation services, and the presence or absence of barriers to use of pharmacotherapy (eg, mandatory attendance of group classes). Counsel fosters the provision of cessation counseling via telephone and by clinicians. Capitalize calls for investment of dedicated staff and resources into tobacco control. Collaboration entreats health plans to liaise with other organizations that aim to reduce tobacco use.¹⁰ Count requires obtaining data necessary for measuring the success

ABSTRACT

Objectives

To describe the smoking cessation services covered by licensed health plans in New York, and to evaluate plan characteristics that could account for variation in services.

Study Design

Prospective cross-sectional survey.

Methods

All 44 unique plans in the 2005 Managed Care Plan Directory of the New York State Department of Health were invited to participate. The Health Plan Tobacco Cessation Index was introduced to score each plan based on covered services, provision of counseling, capitalization of support for tobacco cessation, collaboration with the state quitline, and counting of tobacco users. Index scores ranged from 0 to 15, with higher scores indicating higher levels of cessation services. Descriptive statistics, analysis of variance, χ^2 , and Fisher exact tests were computed.

Results

Of 35 respondent plans, 21 (60%) scored 10—the same as the Minnesota plan that recommended 5Cs for all health plans: Cover, Counsel, Capitalize, Collaborate and Count—or higher. Smaller plans had lower scores ($P = .003$). Seventeen plans promoted the state quitline.

Conclusions

New York plans compared favorably to a plan that features a model tobacco control program, but significant variation existed. There was room for improvement in collaboration with the local quitline.

Am J Manag Care. 2014;20(10):e453-e460

Take-Away Points

The Health Plan Tobacco Cessation Index is a new metric that measures health plan tobacco control activity directly without relying on cessation activities carried out by clinical providers.

- Deficiencies in plan offerings can be identified and addressed in order to increase plan scores.
- Providing full coverage for all cessation medications as well as counseling should not only increase plan scores but increase quit rates.
- The Health Plan Tobacco Cessation Index can replace the Health Plan Employer Data and Information Set Medical Assistance for Smoking Cessation measure.

of cessation programs within the health plan, including monitoring smoking rates among members.

New York is notable because of its aggressive attempts to reduce tobacco-attributable disease and death for many years; for instance, its tobacco tax rate was the highest nationwide in 2011.¹¹ However, its 20% smoking prevalence in 2004 far exceeded the Healthy People 2010 goal of 12% or less.¹² The purpose of this study was 2-fold: to describe the smoking cessation practices adopted by health plans in New York, using the 5C framework, and to evaluate characteristics of health plans that could account for variation in practices (eg, size, type, coverage of Medicaid clients, profit status, plan affiliation).

METHODS

A 20-item questionnaire was used to gather information about medications covered (with or without member co-payments), existence of prerequisites for medication coverage (eg, attendance at a cessation program), use of clinical guidelines, provider reimbursement, telephone counseling, maintenance of records of member tobacco use, and marketing of plan cessation practices and quit-line services. A combination of Addressing Tobacco in Managed Care (ATMC)¹³ survey items and unique questions was used to achieve survey goals. The questionnaire was reviewed by local tobacco control experts before use.

The Managed Care Plan Directory offered by the New York State Department of Health in February 2005 was the sampling frame for this study. Of the 50 plans listed, 6 could not be separated from other plans listed due to commonality of contact information; therefore, 44 unique plans were considered. For each plan, website information and/or telephone consultation with plan staff were used to identify a person likely to be knowledgeable about the survey items. He or she was then contacted by phone to introduce the survey. The survey recipients varied by plan but included such designees as director of quality management, vice president for health services, and

health education manager. The identified respondents were offered the option of receiving (and completing) the survey via e-mail or facsimile. E-mail reminders were sent to persons who did not respond to e-mailed surveys at 14 and 30 days. Telephone reminders were also employed. Data collection occurred between February and August 2005. Reported data were compared with information provided on plan websites (when available) for verification purposes. State government and New York Health Plan Association (NYHPA) reports were used to standardize collection of plan demographic information.

To rate and compare plans in terms of the level of stop-smoking services and policies, the Health Plan Tobacco Cessation Index was developed. It is based on the 5C criteria described by Manley et al.^{7,8} The Index allocates a maximum of 7 points to Cover, 1 to Counsel, 4 to Capitalize, 2 to Collaborate, and 1 to Count. Information about the allocation of points within categories can be found in **Table 1**. Analyses of Index scores were conducted using SPSS version 21.0 (Armonk, New York). Descriptive statistics, analysis of variance, χ^2 , and Fisher exact tests were computed. Statistical significance was at $P < .05$. Significance tests were 2-tailed except where otherwise stated.

RESULTS

Thirty-five of 44 insurers responded to the survey, representing 80% of intended health plan respondents and 77% of covered members. Membership of the respondent plans ranged from 189 to 873,794. These plans included 16 health maintenance organizations (HMOs), 14 prepaid health service plans (PHSPs), 4 partially capitated plans (PCAPs), and 1 special-needs plan. Eight were for-profit, 23 were nonprofit, and 4 were of unknown profit status based on the Directory listing. Nonprofit plans were more likely to respond than for-profit plans ($P < .05$). Twenty-five of the 44 plans were identified as voluntary members of the NYHPA in its directory, 20 of which completed the survey. Twenty-eight of the 35 respondents offered a Medicaid product. Plans offering Medicaid products were more likely to respond to the survey than plans without any Medicaid offerings ($P < .05$).

Cover

Seven plans (25%) earned 7 of 7 points for Cover (**Table 2**), representing maximal coverage. Plans with Medicaid

■ **Table 1.** Health Plan Tobacco Cessation Index

(5Cs)	Comments	Description	Maximum Possible
Coverage (7 total possible points)	1. Pharmacotherapy (3 points)	Full coverage of any medication (Medicaid/FHP)	3 points total
		Low co-pays <\$15	2 points total
		Any coverage	1 point
		No coverage	0
	2. Requirement for coverage (1 point)	Show card only	1 point
		Prior authorization or claim form required	0
	3. Attendance at classes/program required for medication coverage (1 point)	No	1 point
		Yes, or no coverage at all	0
	4. Use of a clinical guideline for smoking cessation (1 point)	Any guideline	1 point
		No guideline/unknown	0
5. Provider reimbursement (1 point)	Yes	1 point	
	No	0	
Counseling (1 possible point)	1. Provision of telephonic counseling to members	Any telephonic counseling	1 point
		No telephonic counseling	0
Capitalize (4 total possible points)	1. Web-based information on how to quit smoking (2 points)	Any Quitline information	1 point
		Any information	1 point
		No information	0
	2. <i>Other</i> tools for informing members of cessation benefits (2 points)	3 or more tools	2 points total
		1 or 2 tools	1 point total
		No tools	0
Collaboration (2 total possible points)	Marketing the Quitline—in newsletters or by referral	Quitline phone number given in newsletter	1 point
		Referral of members to the Quitline	1 point
		No mention of the Quitline	0
Count (1 possible point)	Number of plans with any records of member tobacco use	Any records	1 point
		No records/unknown	0

FHP indicates Family Health Plan; Quitline, New York State Smokers' Quitline.

offerings were more likely to score high marks in this category than plans with no Medicaid offerings ($P = .006$). The 28 plans with Medicaid offerings provided full coverage of nicotine replacement therapy (NRT) (excluding lozenges) and Zyban. Of the 7 plans with no Medicaid products, only 1 reported full coverage of any cessation medication. Thus, 29 plans (83%) provided full coverage for at least 1 cessation medication. Nicotine lozenges, which were not covered by Medicaid, were covered by only 9 plans. Only 1 plan that had cessation benefits required program attendance beyond New York State Smokers' Quitline (Quitline) participation.

Twenty-four plans (69%) had written guidelines for smoking cessation. The majority of these were based on the 2000 PHS guidelines. Guideline use was not predicted by plan size, type, profit status, or plan membership in the NYHPA. Only 13 plans (37%) reported reimbursing providers for performing any cessation services.

Counsel

Fifteen plans did not provide telephone-based counseling (although 3 of these referred clients to the Quitline). Of the 20 with telephonic programs, 12 provided counseling in-house and 8 used external counselors. Telephone coun-

■ **Table 2.** Scores Obtained on the Health Plan Tobacco Cessation Index by 35 Study Plans and 1 Control Plan

Plan	Size tertile	Cover (7)	Counsel (1)	Capitalize (4)	Collaborate (2)	Count (1)	Total (15)
A	1	6	0	2	0	1	9
B	3	6	1	3	0	1	11
C	2	7	1	4	1	1	14
D	2	5	1	1	2	1	10
E	1	6	0	0	0	1	7
F	1	0	0	0	0	0	0
G	1	5	0	2	0	0	7
H	3	7	1	4	1	1	14
I	2	6	1	2	0	1	10
J	2	6	0	2	1	1	10
K	unknown	2	0	2	0	0	4
L	1	6	0	2	0	1	9
M	3	7	1	4	2	1	15
N	3	6	0	3	1	1	11
O	2	6	1	4	2	1	14
P	1	7	0	1	0	1	9
Q	3	6	0	4	1	1	12
R	3	5	1	2	0	1	9
S	3	7	1	3	0	1	12
T	3	6	1	2	0	0	9
U	3	6	1	4	0	1	12
V	2	6	1	3	0	1	11
W	3	6	1	3	2	1	13
X	2	7	1	3	0	1	12
Y	3	2	1	2	1	0	6
Z	2	6	1	2	2	0	11
AA	2	5	0	3	2	1	11
AB	1	6	1	3	1	1	12
AC	2	7	0	4	1	1	13
AD	1	5	0	1	0	1	7
AE	1	6	0	1	1	1	9
AF	1	5	0	1	0	0	6
AG	1	7	1	2	0	1	11
AH	2	5	1	3	1	0	10
AI	2	7	1	0	1	0	9
BC	unknown	5	1	4	0	0	10

BC indicates Blue Cross, which was the control plan.

seling was more likely to be offered by small plans (ie, those in the first tertile; $P = .004$), HMOs ($P = .022$), and NYHPA members ($P = .017$). Offering of telephone counseling was not predicted by plan profit status or Medicaid offering.

Capitalize

Of the 30 plans with websites, 23 had information urging members to quit or explaining how. Use of web-

sites to disseminate information relevant to smoking cessation became more likely as plan size increased ($P = .04$). Whereas 91% of nonprofit plans with websites disseminated cessation information, only 50% of for-profit plans with websites did ($P = .03$). No relationship was seen between plan type or NYHPA membership and the provision of Web-based cessation information. Ten websites included links to the Quitline.

■ **Table 3.** Comparisons of Individual C Metrics by Plan Characteristics

C metric	Plan Characteristic (and P value)				
	Profit Status	Type	Size	NYHPA Affiliation	Medicaid Plan Availability
Cover	NS	NS	NS	NS	.006
Counsel	NS	.022	.004	.017	NS
Capitalize	NS	NS	.001	NS	NS
Collaborate	NS	NS	NS	NS	NS
Count	NS	NS	NS	NS	NS

NS indicates not significant.

Thirty plans had at least 1 non-Internet tool for informing members of cessation benefits. Tools included newsletters (most common), mailers, handbooks/new member packets, telephone information lines, health fairs, advertisements for health education classes or disease management programs, and media advertisements. Newsletters distributed to members and providers from 25 plans between 2002 and 2005 were available for review as Web postings and/or hard copies. Twenty-three plans provided information related to smoking cessation at least once. The use of non-Internet tools was not associated with plan size, type, profit status, or affiliation. Five plans asked providers to inform members of their cessation benefits; however, in 2 instances, the provider manuals were the only way the health plans apprised providers of these benefits.

Collaborate

Seventeen plans (49%) promoted the Quitline in newsletters, websites, or both. Promotion of the Quitline was not predicted by any plan characteristic. Ten plans reported referring members to the Quitline.

Count

Twenty-six plans (74%) had tobacco use status indicated in their member records. The ability of a health plan to identify members who smoked was not predicted by size, type, profit status, Medicaid offering, or affiliation. **Table 3** summarizes the effect of individual plan characteristics on the 5C metrics.

Total Score

Total scores on the Health Plan Tobacco Cessation Index ranged from 0 to 15 out of 15 (**Figure**). Median and mean scores were 10, similar to the score obtained by BCBSM. Twenty-one plans (60%)—representing 4,664,048 covered lives—achieved an optimal score of 10 to 15. The 14 plans that scored 9 or less represented more than 923,451 covered lives. Plans in the first ter-

tile (fewest members) were most likely to have low Index scores ($P = .003$; **Table 4**). Total scores were not predicted by plan type, profit status, Medicaid offering, or NYHPA membership.

DISCUSSION

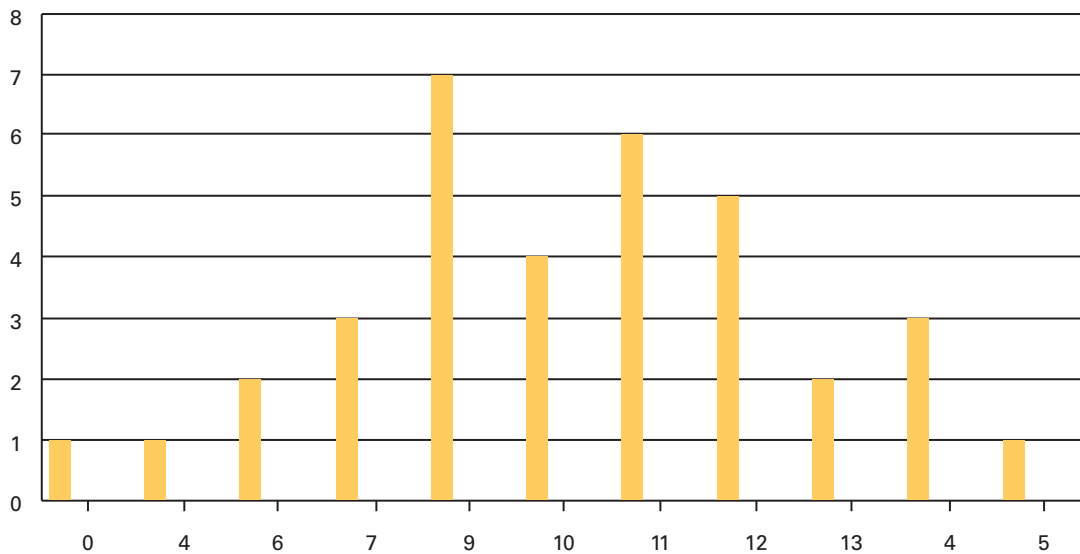
Sixty percent of plans studied obtained an optimal score on the Health Plan Tobacco Cessation Index when compared with BCBSM. These 21 plans represented 83.5% of covered clients in this study. Small plans (those with fewer than 32,611 enrolled) had poorer cessation services than larger plans. One plan offered no cessation coverage, meaning New York was yet to achieve the Healthy People objective of 100% insurance coverage of evidence-based cessation treatments.

Eighty-three percent of New York plans provided full coverage of at least 1 cessation medication, compared with 88% among HMOs surveyed nationally.¹³ The percentage of plans maintaining cessation guidelines was also comparable to that obtained among HMOs.¹³

Reimbursement of healthcare providers for cessation services, though recommended by the PHS Guideline, was only provided by 37% of plans. Most plans had at least 1 vehicle for informing members of cessation benefits.

Two-fifths of plans surveyed did not provide telephonic counseling support for smokers; plans with the most members were less likely to provide this service. The New York State Smokers' Quitline has been well positioned to fill this void, as well as to provide free NRT to motivated clients,¹⁴ but only 20% of plans without telephone counseling marketed the Quitline to its members. This represents an opportunity for improvement that may significantly reduce smoking prevalence, since addition of counseling increases quit rates over use of pharmacotherapy alone.³ The higher rate of telephone counseling among NYHPA members may be related to the adoption of common guidelines, even though adoption was not universal among plans.

■ **Figure.** Score on the Health Plan Tobacco Cessation Index



The proportion of plans with member records indicating tobacco use status in this study is less than found nationwide in 2003.¹³ Yet this would be a first step toward assessing the return on investment in tobacco cessation by individual plans. Given that tobacco usage by covered persons is associated with higher costs to their health plans,¹⁵ the inertia among for-profit and small plans toward posting of cessation information on their websites is surprising.

Limitations

Confirmation of health insurer practices (eg, availability of cessation guidelines or newsletters discussing cessation) was often unattainable, despite direct requests. Web searches were limited for plans that did not give access to all benefit information but rather catalogued it as “member only” or “provider only.” Inability to access relevant information may have lowered the Index scores for such plans; however, research has shown that plans that restrict information may have fewer benefits than plans that give open access to benefit information.¹⁶

The Health Plan Tobacco Cessation Index does not allow assessment of intensity, duration, reach, or quality of the actions assessed. For instance, the Index did not score plans on tobacco control programs for special populations, such as pregnant women. The psychometric properties of the questionnaire were not tested; however, the survey did include previously validated questions from the ATMC. Likewise, the Index has not been validated but was pretested using the Minnesota plan that developed the 5C concept.

The cross-sectional nature of this study does not take

into account previous or planned practices of any health insurers, nor does it evaluate member usage of present or past systems. Notably, varenicline was approved by the FDA for smoking cessation therapy in 2006,¹⁷ after interviews for this study were completed.

Strengths

The scope of this project is broader than similar efforts¹³ in that it obtained information about cessation coverage by not just HMOs but also by PHSPs and PCAPs. This is appropriate for an effort designed to enhance the provision of cessation services to all smokers regardless of insurance type.

There has hitherto been no broad system for rating health plans on tobacco control. The Health Plan Employer Data and Information Set (HEDIS) includes *Medical Assistance with Smoking Cessation*, which describes provider interactions with patients but not provider reimbursement or medication coverage.^{18,19} The Health Plan Tobacco Cessation Index is different because it distinguishes low-performing plans from high-performing plans and reveals areas where services need to be strengthened. The Index measures a plan’s tobacco control activity directly without relying on cessation activities carried out by clinical providers.

Significance

The Health Plan Tobacco Cessation Index is a metric against which plans can be measured repeatedly, so deficiencies can be identified and solutions proffered to increase plan scores. For instance, plans requiring atten-

dance of cessation classes for coverage of cessation medications can remove this requirement, or refer members to the Quitline to increase Index scores. Plans can also increase partial coverage of cessation medications to full coverage.

Adoption and application of the PHS Guideline can also improve Index scores. Quitlines—the focus of the Collaborate section of the Index—may be ready partners for health plans (ie, they can inform insured callers of the type of services likely provided by their health plans). Optimizing member awareness of available cessation services alone can increase quit rates; awareness of cessation benefits increases usage by a factor of 8 to 10.²⁰ Serial studies of health plans have shown improvements in tobacco control policies with time.¹³ Plans should seek to improve their Index scores and, potentially, quit rates among their members.

Overall, the Index is weighted to highlight opportunities for improvement in cessation coverage, not to emphasize one form of treatment over the other. Although the study was completed in New York, the 5C paradigm is applicable across the United States; as such, the components of the Index can be modified to enhance application in different health plan markets. For instance, Count can be expanded to assess measurement of return on investment on tobacco cessation. Cover can be extended to assess provision of dental coverage as an independent variable.

Although this analysis is based on 2005 data, it remains relevant because the Healthy People objective of 100% insurance coverage of evidence-based treatment for tobacco cessation is yet to be met nationwide as of this report. The Affordable Care Act requires new health plans to cover preventive services—including tobacco cessation—without cost sharing. This mandate can only improve the Cover and Counsel portions of the Index; however, the PHS Guidelines² call for promotion of quitlines, which is highlighted in 2 other sections of the Index.

CONCLUSION

Many New York plans compare favorably to a plan known nationally for its tobacco control program, but significant variation exists, especially in provision of counseling. One-sixth of insured New Yorkers may have suboptimal cessation benefits. More health plans can reimburse clinicians and promote the local quitline. Further

■ **Table 4.** Scores Obtained on the Health Plan Tobacco Cessation Index by Size Tertile (number of plans, N = 34)

Health plan size tertile (by number insured)	Score out of 15: Mean; 95% CI
First: 189- 32,610 (n = 11)	7.82; 5.70-9.94
Second: 32,611-200,874 (n = 12)	11.25; 10.20-12.30
Third: 200,875- 873,794 (n = 11)	11.27; 9.57-12.97
<i>F</i> = 7.04, 2 <i>df</i> , <i>P</i> = .003.	

research into the potential relationship between scores on the Health Plan Tobacco Cessation Index and quit attempts and successes is warranted.

Author Affiliations: At the time of the study Dr Kolade was affiliated with the Roswell Park Cancer Institute and the University at Buffalo, NY.

Source of Funding: None reported.

Author Disclosures: The author reports no relationship or financial interest with any entity that would pose a conflict of interest with the subject matter of this article.

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