
The Top Priority

Building a Better System for Tobacco-Cessation Counseling

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Tobacco use remains the nation's leading preventable cause of disease and death, each year claiming an estimated 438,000 lives in the United States and accounting for more than \$167 billion in healthcare costs and lost productivity.¹ Findings from the National Commission on Prevention Priorities (NCPP), reported in this issue by Maciosek et al.² and Solberg et al.,³ underscore the enormous potential health and economic benefits of addressing this behavior in routine clinical care. Extrapolating from evidence that one-time, brief primary care cessation counseling has a 12-month effectiveness of 2.4% (5.0% when combined with pharmacotherapy), Solberg et al.³ estimate a 23.1% quit rate from repeated annual screening and brief intervention for tobacco users. Extended over the lifetimes of smokers, the intervention would save 2.47 million quality-adjusted life years at a cost savings of \$500 per smoker and billions of dollars for the nation.

The NCPP updates its previous 2001 effort to rank the relative effectiveness of clinical preventive services recommended by the U.S. Preventive Services Task Force.⁴ In 2001 and again in the current update, the identification and counseling of smokers surged to the top of the list. Its clinical impact and cost effectiveness surpass that of other important preventive services, such as mammography, colorectal cancer screening, and pneumococcal and influenza vaccination of seniors. The NCPP identified tobacco-use screening and intervention for adults, along with childhood immunization and aspirin chemoprophylaxis for high-risk adults, as the three most consequential and cost-effective preventive services that clinicians can provide.²

Delivery of this top-priority service remains inadequate, however. According to 2004 Health Plan Employer Data and Information Set (HEDIS) performance data reported by the National Committee for Quality Assurance (NCQA), although 69% of smokers in commercial health plans received some advice to

quit, only 37% and 38%, respectively, went on to receive counseling about cessation strategies or medications.⁵ The NCQA reports similar, but lower, rates for smokers enrolled in Medicaid plans. The recommended components of effective smoking-cessation counseling are the "5A's": **ask** about tobacco use at every visit (A1), **advise** to quit (A2), **assess** willingness to make a quit attempt (A3), **assist** with counseling and pharmacotherapy (A4), and **arrange** follow-up support and assistance (A5).⁶ A recent survey of more than 4000 smokers in nonprofit staff-model health plans found that rates for A1 and A2 were favorable (90% and 71%, respectively), but that follow-through on A3 to A5 was inadequate (56%, 38% to 49%, and 9%, respectively), even though most of the surveyed smokers wanted to quit and wanted their physician's help.⁷ Recent studies of interventions to improve the identification of smokers (A1), such as checking smoking status as a "vital sign," have reported little improvement in A2 to A5, pointing to the need for broader systems changes.⁸⁻¹⁰

Multicomponent systems changes consistent with the planned care or chronic care model by Wagner et al.¹¹ can facilitate the delivery of all 5A's.^{3,12,13} Helpful systems-level strategies include measurement, performance reports and incentives for provider adherence to cessation practice guidelines, computer-based patient enrollment and tracking systems, computer-generated telephone counseling calls and feedback on outcomes, cessation specialist office-staff support, reduced patient co-payments for counseling services, referral to community resources for additional support, and clinician/health plan support for community policies that support quitting and maintenance (e.g., increased tobacco taxes, tobacco control funding, clean indoor air laws, media campaigns and promotions of quit lines, and other cessation services).^{2,3,12,14-16}

Using a combination of these strategies, several health plans have reported dramatic success. For instance, within 10 years, Group Health Cooperative in Seattle reduced the prevalence of adult smoking from 25% to 15% (the state average was 21%).^{12,17} Provident Health Systems in Portland OR, Kaiser Permanente of Northern California, and HealthPartners in Minnesota achieved similar results.¹⁸⁻²⁰ Fisher et al.²¹ used participatory approaches to change systems of care in two federally qualified health centers serving a low-income

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minority population. Within 2 years, tobacco-use screening increased from 2% to 94%, and provider quit advice and offers of cessation assistance rose to 80% and 61% to 64%, respectively. Systems changes in each of these four examples combined internal and external quitting resources to reduce the burden on busy office staff and ensure treatment delivery. Apart from being more likely to quit, there is growing evidence that smokers express greater satisfaction with their doctors and their care when they receive the interventions offered by these systems.^{7,22}

The vast majority of clinicians work outside such systems, however. Most primary care is delivered by small independent practices, which are struggling to deliver essential care and maintain economic viability.²³ Office visits average only 14.5 minutes and must address diverse patient needs.^{24,25} The ordinary clinician lacks the time, reimbursement, skills, and staff to deliver all 5A's to all smokers in their care.^{26,27} These clinicians require alternative models to connect patients with high-quality assistance outside the practice.^{6,19,28} Such models call on clinicians to do what is feasible in a busy office visit: to identify smokers (A1), offer a few minutes of brief advice (A2), and refer patients elsewhere for more extended assistance (A3 to A5). Clinicians are thereby involved in what they do best—adding their imprimatur to the importance of quitting²⁹ and anchoring their quit advice in the context of the patient's health needs and history³⁰—but the model turns elsewhere for more effective assistance.³¹ For example, proactive telephone counseling achieves higher quit rates than brief physician advice and counseling.^{14,32} Several initiatives—a variety of state programs, the “Ask, Advise, Refer” campaign of The American Dental Hygienists' Association and the National Cessation Leadership Center, and the “Ask and Act” campaign of the American Academy of Family Physicians—encourage clinicians to perform A1 and A2 in their offices and to refer patients to quit lines and other external cessation services for further assistance.^{16,19,33} Under the best of these models, quit line counselors work with primary care clinicians in a team approach, providing feedback reports on smokers' progress with counseling, which clinicians can reference in discussions with patients at follow-up visits, and counselors can alert physicians when cessation medications are indicated.^{17,34} A randomized trial is currently testing whether such an approach improves the intensity of counseling assistance.³⁵

Whether it is referring patients to quit lines or to other community services outside the practice, an effective system for helping smokers to quit can rarely be cobbled together by the practices themselves. Although clinicians are capable of modifying internal operations to support a cessation counseling program³⁶—such as adopting a vital sign intervention or refining the brief advice they give smokers—other ingredients for cessation counseling require engagement and leadership

from the larger institutions and delivery systems within which practices operate. For example, where practices are owned by a health system with a common electronic health record, senior management must authorize the necessary reprogramming to create electronic prompts to identify smokers. Most clinicians lack the time, talent, and contacts to design a convenient referral system that is easy to use, limits imposition on the practice, and provides a seamless transfer of patients and their information to an offsite counseling program. A successful system for referrals and feedback often requires staff from the quit line, or the community or state cessation program, to work with counterparts in the health system to work out the details.³⁷ Nor can practices solve the problem of reimbursement for this effort, which only purchasers and payers can rectify.

Thus, although clinicians can do much to improve cessation counseling, creating a system to help smokers obtain the quitting assistance that they need is an undertaking best implemented at the level of policymakers: leaders of health systems, employers, payers, and state tobacco control leaders. To be sure, decision makers at this level face competing demands for limited resources and require a compelling argument to undertake the hard work and to pay the bills for creating such systems.³⁸ However, the NCPP findings demonstrate that healthcare decision makers, purchasers, and policymakers stand to achieve extraordinary returns—in extended lives and cost savings—by getting serious about helping smokers to quit. The payoff is made clear by the work of Maciosek et al.² and Solberg et al.,³ who demonstrated that more would be gained by improving the delivery of cessation counseling than by improving uptake of any other preventive service reviewed by the NCPP. For example, improving uptake of breast and colorectal cancer screening from current delivery rates to 90% of eligible patients would save 91,000 and 340,000 quality-adjusted life years, respectively, whereas doing the same for the identification and counseling of smokers would save 1.3 million quality-adjusted life years.² The economic implications to public and private purchasers are equally compelling. Knowing the projected savings of \$500 per smoker³ and the prevalence of tobacco use in their covered population, payers and employers can “do the math,” and quickly recognize the business case for adopting system changes to support cessation. Few investments could do more to control healthcare costs and increase worker productivity.

Policymakers and healthcare and tobacco control leaders have made great strides in the last decade to help clinicians to help smokers. Quit lines are available in 45 states and now can be reached by one toll-free number (1-800-QUIT NOW). Today, 41 state Medicaid programs and 98% of U.S. health plans provide coverage for at least one form of recommended counseling or pharmacotherapy, and both Medicare and the Vet-

erans Health Administration (VHA) cover tobacco-cessation counseling.^{39,40} The proportion of U.S. health plans using some system to identify smokers rose from 15% in 1997 to 71% in 2002.⁴⁰ Advances in e-health and health information technology are expanding capacity for computerized provider reminders and prompts.⁴¹ The identification **and assistance** of smokers is a key metric in several leading quality improvement, pay-for-performance, and provider recertification initiatives.¹³ Many national, state, and professional groups offer cessation-related training tools and supports for busy primary care clinicians. Major tobacco control funders are collaborating with private sector leaders to discover new ways to stimulate consumer demand for proven cessation strategies.⁴² Finally, growing nationwide support for comprehensive clean indoor air laws (over 25% of the population is now covered) and continued increases in combined state and federal cigarette taxes (averaging \$1.30 per pack) are building stronger norms and support to help smokers quit.^{15,43}

These and other pieces of an effective system to help clinicians assist smokers are coming into place, but “assembly is required,” and so is leadership. Policy leaders and stakeholders at all levels must take the initiative to encourage health systems, the public health community, and others who share an interest in tobacco control to work together to construct an integrated system in which clinicians and community programs work synergistically to identify smokers and offer high-quality assistance. Building the infrastructure for such a collaboration will yield benefits that extend beyond tobacco control to other areas of prevention and chronic illness care.⁴⁴ As with cessation counseling, clinicians need assistance from the outside to help patients become physically active, change eating habits, control their weight, and manage chronic illnesses.^{28,45} Investing in a “relationship infrastructure” that facilitates a more effective approach not only to tobacco use but to the obesity epidemic and other threats to the nation’s health and economy is increasingly urgent. The findings of the NCPP could not be clearer: Building a better system for tobacco cessation counseling is among the most important actions that we can take to save lives and dollars and improve the quality of health care for patients.

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References

1. Centers for Disease Control and Prevention. Annual smoking-attributable mortality, years of potential life lost, and productivity losses—United States, 1997–2001. *MMWR Morb Mortal Wkly Rep* 2005;54:625–8.
2. Maciosek MV, Coffield AB, Edwards NM, Flottesmesch TJ, Goodman MJ, Solberg LI. Priorities for improving utilization of clinical preventive services: results. *Am J Prev Med* 2006;31:52–61.

3. Solberg LI, Maciosek MV, Edwards NM, Khanchandani HS, Goodman MJ. Repeated tobacco-use screening and intervention in clinical practice: health impact and cost effectiveness. *Am J Prev Med* 2006;31:62–71.
4. Coffield AB, Maciosek MV, McGinnis JM, et al. Priorities among recommended clinical preventive services. *Am J Prev Med* 2001;21:1–9.
5. National Committee for Quality Assurance. The state of health care quality: 2005. Industry trends and analysis. Washington DC: National Committee for Quality Assurance, 2005.
6. Whitlock EP, Orleans CT, Pender N, Allan J. Evaluating primary care behavioral counseling interventions: an evidence-based approach. *Am J Prev Med* 2002;22:267–84.
7. Quinn VP, Stevens VJ, Hollis JF, et al. Tobacco-cessation services and patient satisfaction in nine nonprofit HMOs. *Am J Prev Med* 2005;29:77–84.
8. Piper ME, Fiore MC, Smith SS, et al. Use of the vital sign stamp as a systematic screening tool to promote smoking cessation. *Mayo Clin Proc* 2003;78:716–22.
9. Boyle R, Solberg LI. Is making smoking status a vital sign sufficient to increase cessation support actions in clinical practice? *Ann Fam Med* 2004;2:22–5.
10. Milch CE, Edmunson JM, Beshansky JR, Griffith JL, Selker HP. Smoking cessation in primary care: a clinical effectiveness trial of two simple interventions. *Prev Med* 2004;38:284–94.
11. Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: translating evidence into action. *Health Aff* 2001;20:64–78.
12. Glasgow RE, Orleans CT, Wagner EH, Curry SJ, Solberg LI. Does the chronic care model serve also as a template for improving prevention? *Milbank Q* 2001;79:579–612.
13. Institute of Medicine. Priority areas for national action: transforming health care. Washington DC: National Academies Press, 2003.
14. Fiore MC, Bailey WC, Cohen SJ, et al. Treating tobacco use and dependence: clinical practice guideline. Rockville MD: U.S. Department of Health and Human Services, Public Health Service, 2000.
15. Hopkins DP, Briss PA, Ricard CJ, et al. Reviews of evidence regarding interventions to reduce tobacco use and exposure to environmental tobacco smoke. *Am J Prev Med* 2001;20(suppl 2):16–66.
16. Revell CC, Schroeder SA. Simplicity matters: using system-level changes to encourage clinician intervention in helping tobacco users quit. *Nicotine Tob Res* 2005;7(suppl 1):S67–9.
17. McAfee T, Sofian NS, Wilson J, Hindmarsh M. The role of tobacco intervention in population-based health care: a case study. *Am J Prev Med* 1998;14(suppl 3):46–52.
18. Bentz CJ. Implementing tobacco tracking codes in an individual practice association or a network model health maintenance organization. *Tob Control* 2000;9(suppl 1):142–5.
19. Schroeder SA. What to do with a patient who smokes. *JAMA* 2005;294:482–7.
20. Amundson GM, Gentili S, Wehrle D. HealthPartners 2005 clinical indicators report. 13th ed. Bloomington MN: HealthPartners, Inc., 2005. Available at: www.healthpartners.com/files/23463.PDF. Accessed December 12, 2005.
21. Fisher E, Musick J, Scott C, et al. Improving clinic- and neighborhood-based smoking cessation services within federally qualified health centers serving low-income, minority neighborhoods. *Nicotine Tob Res* 2005;7(suppl 1):S45–56.
22. Conroy MB, Majchrzak NE, Regan S, Silverman CB, Schneider LI, Rigotti NA. The association between patient-reported receipt of tobacco intervention at a primary care visit and smokers’ satisfaction with their health care. *Nicotine Tob Res* 2005;7(suppl 1):S29–34.
23. Grumbach K, Bodenheimer T. A primary care home for Americans: putting the house in order. *JAMA* 2002;288:889–93.
24. Woodwell DA, Cherry DK. National Ambulatory Medical Care Survey: 2002 summary. Hyattsville MD: National Center for Health Statistics, 2004 (advance data from Vital and Health Statistics 346).
25. Jaén CR, McIlvain H, Pol L, Phillips RL Jr, Flocke SA, Crabtree BF. Tailoring tobacco counseling to the competing demands in the clinical encounter. *J Fam Pract* 2001;50:859–63.
26. Vogt F, Hall S, Marteau TM. General practitioners’ and family physicians’ negative beliefs and attitudes towards discussing smoking cessation with patients: a systematic review. *Addiction* 2005;100:1423–31.
27. Hu S, McAlister AL, Meshack AF, Margolis JA. Physicians’ views and practice of smoking cessation. *Tex Med* 2003;99:57–63.

28. Woolf SH, Glasgow RE, Krist A, et al. Putting it together: finding success in behavior change through integration of services. *Ann Fam Med* 2005; 3(suppl 2):S20–7.
29. Kreuter MW, Chheda SG, Bull FC. How does physician advice influence patient behavior? Evidence for a priming effect. *Arch Fam Med* 2000;9:426–33.
30. Stange KC, Jaén CR, Flocke SA, Miller WL, Crabtree BF, Zyzanski SJ. The value of a family physician. *J Fam Pract* 1998;46:363–8.
31. Stange KC, Woolf SH, Gjeltema K. One minute for prevention: the power of leveraging to fulfill the promise of health behavior counseling. *Am J Prev Med* 2002;22:320–3.
32. Stead LF, Lancaster T, Perera R. Telephone counseling for smoking cessation. *Cochrane Database Syst Rev* 2003;CD002850.
33. McPhillips-Tangum C, Bocchino C, Carreon R, Erceg C, Rehm B. Addressing tobacco in managed care: results of the 2002 survey. *Prev Chronic Dis* 2004. Available at: www.cdc.gov/pcd/issues/2004. Accessed January 14, 2006.
34. Massachusetts Department of Public Health. QuitworksSM. A solution for providers to help patients quit smoking. Available at: www.quitworks.org. Accessed December 9, 2005.
35. U.S. National Institutes of Health, ClinicalTrials.gov. Quitlink: a leveraging solution to tobacco counseling. Available at: www.clinicaltrials.gov/ct/show/NCT00112268. Accessed December 9, 2005.
36. Dickey LL, Gemson DH, Carney P. Office system interventions supporting primary care–based health behavior change counseling. *Am J Prev Med* 1999;17:299–308.
37. Swartz SH, Cowan TM, Klayman JE, Welton MT, Leonard BA. Use and effectiveness of tobacco telephone counseling and nicotine therapy in Maine. *Am J Prev Med* 2005;29:288–94.
38. Schroeder SA. Tobacco control in the wake of the 1998 master settlement agreement. *N Engl J Med* 2004;350:293–301.
39. Halpin HA, McMenamin SB, Orleans CT, Husten CG. State Medicaid coverage for tobacco dependence treatments – United States, 1994–2002. *MMWR Morb Mortal Wkly Rep* 2004;53:54–7.
40. McPhillips-Tangum C, Bocchino C, Carreon R, Erceg C, Rehm B. Addressing tobacco in managed care: results of the 2002 survey. *Prev Chronic Dis* 2004;1:A04 (Epub September 15, 2004).
41. Glasgow RE, Bull SS, Piette JD, Steiner JF. Interactive behavior change technology. A partial solution to the competing demands of primary care. *Am J Prev Med* 2004;27(suppl 2):80–7.
42. Orleans CT. Is the target hardening? Are smokers less likely to quit now than in the past? In Those who continue to smoke: is achieving abstinence harder and do we need to change our interventions? Bethesda MD: National Cancer Institute, April 2003:1–10 (NIH pub. 035370).
43. American Nonsmokers' Rights Foundation. Percent of U.S. state populations covered by local or state 100% smokefree air laws. October 4, 2005. Available at: www.no-smoke.org/pdf/percentstatepops.pdf. Accessed December 12, 2005.
44. Orleans CT. Addressing multiple behavioral health risks in primary care: broadening the focus of health behavior change research and practice. *Am J Prev Med* 2004;27(suppl 2):1–4.
45. Glasgow RE, Goldstein MG, Ockene JK, Pronk NP. Translating what we have learned into practice: principles and hypotheses for interventions addressing multiple behaviors in primary care. *Am J Prev Med* 2004; 27(suppl 2):88–101.