

# Promoting Smoking Cessation in the Healthcare Environment

## 10 Years Later

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A decade ago there was great optimism for harnessing the healthcare system to increase the use of evidence-based tobacco-dependence treatment and, ultimately, to achieve national goals for reductions in the prevalence of tobacco use. Two catalysts for addressing tobacco in health care at that time were the newly released Agency for Health Care Policy and Research (AHCPR) (now the Agency for Healthcare Research and Quality [AHRQ]) *Clinical Practice Guideline*, which documented that brief primary care counseling and pharmacotherapy could double population quit rates,<sup>1</sup> and the inclusion of primary care provider advice to quit as a National Committee for Quality Assurance's (NCQA) Health Plan Employer Data Information System (HEDIS) measure.<sup>2</sup>

The clinical practice guideline was visionary in its recognition of the importance of healthcare system changes to institutionalize tobacco-dependence treatment rather than relying solely on clinicians to take action. Recommended health systems strategies included implementing tobacco user identification systems; provider education, resources, and feedback; dedicated staff to foster the delivery of treatment; hospital policies to support inpatient cessation services; coverage for evidence-based behavioral and pharmacologic treatments in all insurance packages; and accountabilities and reimbursement for clinicians to deliver cessation treatments as a routine part of clinical care.<sup>1</sup>

With its broad reach into the population, more centralized systems of care, and unique incentives for prevention, many believed that managed care offered an unprecedented opportunity to make tobacco-use screening and intervention the standard of care for quality healthcare delivery.<sup>3</sup> Projections were that by 2005 the majority of commercially insured U.S. citizens would be enrolled in managed care.<sup>4</sup> Thus, getting managed care organizations to coalesce on provider

accountabilities, reimbursement mechanisms, systems supports, and in-patient treatment standards could affect the treatment of tobacco use and dependence in the vast majority of clinical practices in the United States. To facilitate the implementation of the evidence-based guideline, in 1997 the Robert Wood Johnson Foundation launched the Addressing Tobacco in Managed Care national program that included a national grants program co-directed at the University of Wisconsin and the University of Illinois at Chicago<sup>5</sup> and a national technical assistance office headed by America's Health Insurance Plans (formerly the American Association of Health Plans).<sup>6</sup>

Where are we a decade later? Predictions about the reach of "managed care" were fairly accurate for individuals with employer-sponsored health insurance. Overall, managed care dominates most insurance markets, with the exception of Medicare. Recent data show that among covered employees only 5% are enrolled in conventional indemnity plans (down from 27% in 1996).<sup>7</sup> Most (55%) are enrolled in a preferred provider organization (PPO) that is the most decentralized managed care configuration.<sup>7</sup> By 2001, more than 91% of physicians were part of a medical practice that had at least one managed care contract, and most of these had many contracts (mean=13).<sup>4</sup> Medicaid managed care enrollment increased modestly from 40% 1996 to 59% in 2003.<sup>8</sup> However, managed care enrollment among Medicare enrollees remains unchanged from 1996 to 11%.<sup>7</sup>

The past decade also witnessed an increased emphasis on the need for system changes to close the gap between evidence-based practice and usual care, especially following the 2001 publication of the Institute of Medicine (IOM) report, *Crossing the Quality Chasm: A New Health System for the 21st Century*.<sup>8</sup> The IOM selected the treatment of tobacco use and dependence as one of 20 priority conditions for national action because of its extraordinary population health impact and its cost effectiveness, as well as evidence that such system changes improve the delivery of this treatment.<sup>9</sup> Increasing accountabilities for addressing tobacco use and dependence, an increasingly common approach to improving quality and closing the evidence-practice gap, have also played a role. HEDIS measures have

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expanded from one measure of advice to quit in 1996 to three measures in 2005 that assess the offering of behavioral and pharmacologic treatments in addition to simply providing advice.<sup>10</sup> Beginning in 2005, the Joint Commission on Accreditation of Health Care Organizations included a measure of the number of inpatients with a history of smoking cigarettes who receive advice or counseling for smoking cessation during their hospital stay as a core measure for acute myocardial infarction, congestive heart failure, and pneumonia.<sup>11</sup> And both primary care provider advice to quit and post-myocardial infarction counseling to quit smoking are included in AHRQ's Annual Healthcare Quality Report.<sup>12</sup>

Published research on smoking cessation in health care provides further support for the effectiveness of the system-level strategies recommended in the clinical practice guideline. For example, several studies show that adding smoking as a vital sign increases rates of asking about tobacco use and the documentation of tobacco use in the medical record.<sup>13,14</sup>

There also are encouraging findings regarding provider education, reminder systems, and feedback. Providers are receptive to academic profiling and feedback.<sup>15</sup> Both individual and team feedback increases the delivery of advice, assistance, and arranging follow-up with patients who smoke,<sup>16</sup> automated performance feedback and senior-level incentives increase identification and intervention with smokers,<sup>17</sup> and achievable benchmark feedback based on data captured in an electronic medical record increases delivery of cessation advice, assistance, and follow-up.<sup>18</sup>

Support for the effects of financial incentives and reimbursement has been mixed. Clinic-based financial incentives improved rates of identifying tobacco-use status, but did not improve rates of advice, assistance, or follow-up. However, when paired with a centralized registry of tobacco users and a health-system sponsored telephone-based cessation program, incentives increased the number of smokers who used cessation services.<sup>19</sup> In another study, quarterly bonus incentives increased referrals to a state quit-line.<sup>20</sup> Modest reimbursements to clinicians on a per-patient basis for counseling smokers have not increased rates of counseling or of referral to telephone quit-lines.<sup>20</sup> These findings suggest that new pay-for-performance initiatives may have their greatest impact when paired with supportive system changes.

Evidence is strong that insurance coverage for smoking-cessation treatments increases treatment use and population quit rates.<sup>21</sup> Moreover, studies show that the higher the cost-sharing for treatment, the less it is used.<sup>21</sup> Although insurance coverage increases use of cessation services, rates of benefit use, even among smokers with full coverage, is relatively low (i.e., under 20%).<sup>22</sup> One study showed much higher rates of use of a pharmacotherapy benefit among smokers who were

aware of the benefit (over 40%), underscoring the need for the effective communication of treatment coverage and benefits.<sup>23</sup>

The increased reach of managed care, more accountability for health plans and the larger U.S. healthcare system to address tobacco, and growing evidence for the effectiveness of health system approaches for treating tobacco use and dependence are meaningful only if they improve the availability and delivery of evidence-based treatment to smokers. There are some positive trends in several areas, including the availability of behavioral and pharmacologic treatment, insurance coverage and reimbursement for tobacco-cessation treatments, and front-line provider interventions with patients who smoke.

For behavioral treatment, there has been an increase from four states with quit-lines in 1996 to a total of 45 states as well as a federally sponsored national portal for telephone smoking-cessation counseling (1-800QUIT-NOW) serving all 50 states and the District of Columbia in 2006. Nicotine gum, patches, and lozenges are now available over the counter; several additional forms of Food and Drug Administration-approved pharmacotherapies for tobacco dependence (including nicotine nasal spray and inhalers and bupropion SR) are available by prescription. One newly approved medication, varenicline, is about to be released, and others are under development.<sup>22</sup>

The paper by Schnoll et al.<sup>24</sup> in this issue provides encouraging national data on physician-reported rates of providing cessation advice and assistance. Their survey found over 70% of physicians reporting routinely advising their patients to quit smoking, and over 60% reporting that they routinely recommend pharmacotherapies. Less encouraging were low rates of reported referral to behavioral support. There are notable similarities between physician self-reports in this national survey and other national patient-based reports. For example, data from national surveys show an increase in reported advice to quit smoking from a healthcare provider from 40% to 50% in the mid 1990s to 62% in the mid-2000s.<sup>25</sup> NCQA HEDIS measures from 2004 show that nearly 70% of smokers or recent quitters (68.7%) received advice to quit smoking from their practitioner, and over 36% reported that their practitioner discussed smoking-cessation strategies.<sup>10</sup> However, a considerably lower percentage of smokers reported that their providers discussed smoking-cessation medications (37.6%).

The inclusion of coverage for evidence-based tobacco-cessation treatments in public insurance benefits is increasing. A total of 42 state Medicaid programs now cover at least some evidence-based tobacco-cessation treatment (versus 22 in 1997), and both Medicare and the Veterans Administration have added coverage for behavioral counseling and pharmacotherapy.<sup>26</sup> There are promising trends as well in private insurance cov-

erage. The most recent survey by America's Health Insurance Plans (AHIP) reported that 97% of plans provide coverage for some form of tobacco-cessation treatment in at least one of their insurance products, compared to 75% in 1997.<sup>27</sup> However, there is room for improvement: Only 41% of plans report coverage for bupropion SR, 8% for nicotine patches, 52% for telephone counseling, and 16% for group counseling. The coverage picture becomes more confusing with data from a recent employer survey showing that only 20% of employer-selected plans include such coverage in their primary plan.<sup>28</sup> The discrepancy between these two national surveys may reflect the fact that the AHIP survey asked only about the insurer's best-selling health maintenance organization (HMO) product—whereas the majority of U.S. employees receive their care through PPOs. Clearly, barriers to insurance coverage exist, including lack of awareness on the part of insurers and purchasers of the potential return on investment (ROI) for adding coverage for cessation treatments.<sup>22,29</sup> Several recent studies document reductions in healthcare utilization and costs following smoking cessation; an ROI calculator for insurers is available in the public domain for individualized calculations of potential cost savings.<sup>30</sup>

Overall, we have seen enormous progress over the past decade in promoting smoking cessation through the healthcare system. Changes in healthcare systems, provider behavior, and treatment accessibility, along with progress in other areas, including clean air policies and increased taxes on tobacco products, have contributed to measurable declines in smoking prevalence. Indeed, recent data show an acceleration in the decline in per capita cigarette consumption seen over the last 50 years, with a 4.2% decline in 2005 and a 20% decline since 1998, as well as a continued steady but slow decline in adult smoking prevalence.<sup>31,32</sup> These changes have come about through a combination of systematic research to identify effective treatments and the systems changes needed to deliver them, and focused, committed leadership and advocacy to apply the fruits of this research.

While there is much to celebrate in the progress we have made, there is much that remains to be done. Although the use of evidence-based treatments doubles a smoker's chances for successful cessation, use of and demand for these treatments remains low, especially among low-income and under-served populations where tobacco-use prevalence is highest.<sup>23,26</sup> Low demand may result from lower rates of coverage in most employer-based insurance plans, as well as a lack of awareness of coverage and treatment efficacy among key populations of smokers, including those covered by Medicaid.<sup>29</sup> Proven health-system changes for addressing tobacco use and dependence will be effective only if they are sustained and integrated into the culture of healthcare delivery for all Americans. The most serious

deficiencies in this area are easily implemented and reimbursable systems for providing assistance and arranging follow-up for smokers who are motivated to quit, assistance that is increasingly within the reach of health plans, practices, providers, and the public through the proliferation of cost- and barrier-free quit-lines.<sup>33,34</sup>

Challenges remain for the next decade. We must ensure that patients' smoking status and engagement in the quitting process are integral parts of their electronic medical records; providers have seamless methods for linking motivated smokers with effective, evidence-based, behavioral and pharmacologic treatments; coverage for evidence-based treatments is an expected benefit in all private and public health plans; and health-system performance in addressing tobacco use and dependence is an expected, routinely tracked, and publicly reported indicator of healthcare quality.

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Curry consulted on outcomes research and health education for Pfizer, Inc., which has a new smoking cessation product in the pipeline for FDA approval; and consulted on an international study of smokers for Sanofi-Aventis, which may be developing a medication for smoking cessation.

Fiore, in the last five years, has served as a consultant, given lectures sponsored by, or has conducted research sponsored by GlaxoSmithKline, Pharmacia, Pfizer, and Sanofi-Synthelabo. In 1998, the University of Wisconsin (UW) appointed Dr. Fiore to a named chair, made possible by an unrestricted gift to UW from GlaxoWellcome.

Keller was the Deputy Director for the Robert Wood Johnson Foundation-funded Addressing Tobacco in Managed Care (ATMC) National Program Office (research grants program) mentioned in the manuscript and currently serves as the deputy director for the Addressing Tobacco in Healthcare Research Network, a successor project to ATMC also funded by the Robert Wood Johnson Foundation. In 2005, Keller served as a non-testifying consultant for the U.S. Justice Department in its case against the tobacco industry.

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## References

1. Fiore MC, Bailey WC, Cohen SJ, et al. Smoking cessation clinical practice guideline no. 18. Rockville MD: U.S. Department of Health and Human Services, 1996.
2. Orleans CT, Abrams DB, Gruman JC. Will healthcare take tobacco addiction seriously? Using policy to drive practice. *Medscape Gen Med* 2001;3:1-5.
3. Abrams DB, Orleans CT, Niaura R, Goldstein MG, Velicer W, Prochaska JO. Smoking cessation treatment: a comprehensive stepped-care model. *Ann Behav Med* 1997;18:290-304.
4. Strunk BC, Reschovsky JD. *Kinder and gentler: physicians and managed care*. Washington DC: Center for the Study of Health System Change, November 2002 (tracking report 5).
5. Curry SJ, Fiore MC, Orleans CT, Keller P. Addressing tobacco in managed care: documenting the challenges and potential for systems-level change. *Nicotine Tob Res* 2002;4:5-7.
6. Bocchino D. Addressing tobacco in Managed Care conference. *Tob Control* 2000;9(suppl 1):12.
7. Kaiser Family Foundation. *Health Care Marketplace Project. Trends and indicators in the changing health care marketplace*. Menlo Park CA, 2004

- (publication 7031). Available at: [www.kff.org/insurance/7031/ti2004-5-set.cfm](http://www.kff.org/insurance/7031/ti2004-5-set.cfm). Accessed March 7, 2006.
8. Institute of Medicine, Committee on Quality of Healthcare in America. *Crossing the quality chasm: a new health system for the 21st century*. Washington DC: National Academies Press, 2001.
  9. Institute of Medicine, Committee on Identifying Priority Areas for Quality Improvement. *Priority areas for national action: transforming health care*. Washington DC: National Academies Press, 2003.
  10. National Committee for Quality Assurance. *The state of health care quality: 2005. Industry trends and analysis*. Washington DC: National Committee for Quality Assurance, 2005.
  11. Joint Commission on Accreditation of Health Care Organizations. *A comprehensive review of development and testing for national implementation of hospital core measures*. Available at: [www.jointcommission.org/](http://www.jointcommission.org/). Accessed March 8, 2006.
  12. Agency for Healthcare Research and Quality. *National healthcare quality report, 2005*. Rockville MD: U.S. Department of Health and Human Services, December 2005 (AHRQ publication 06-0018).
  13. 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.
  14. 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.
  15. Swartz SH, Cowan TM, DePue J, Goldstein MG. Academic profiling of tobacco-related performance measures in primary care. *Nicotine Tob Res* 2002;4(suppl 1):S38–44.
  16. Andrews JO, Tinggen MS, Waller JL, Harper RJ. Provider feedback improves adherence with AHCPR Smoking Cessation Guideline. *Prev Med* 2001;33:415–21.
  17. McAfee T, Grossman R, Dacey S, McClure J. Capturing tobacco status using an automated billing system: steps toward a tobacco registry. *Nicotine Tob Res* 2002;4(suppl 1):S31–7.
  18. Bentz CJ, Davis N, Bayley B. The feasibility of paper-based tracking codes and electronic medical record systems to monitor tobacco-use assessment and intervention in an individual practice association (IPA) model health maintenance organization (HMO). *Nicotine Tob Res* 2002;4(suppl 1):S9–17.
  19. Roski J, Jeddeloh R, An L, et al. The impact of financial incentives and a patient registry on preventive care quality: increasing provider adherence to evidence-based smoking cessation practice guidelines. *Prev Med* 2003 Mar;36:291–9.
  20. Rigotti NA. Increasing smoking cessation at the population level: thinking outside the box. *J Public Health Manag Pract* 2006;12:3–5.
  21. Kaper J, Wagena EJ, Severens JL, Van Schayck CP. Healthcare financing systems for increasing the use of tobacco dependence treatment. *Cochrane Database Syst Rev* 2005;CD004305.
  22. Cokkinides VE, Ward E, Jemal A, Thun MJ. Under-use of smoking-cessation treatments. *Am J Prev Med* 2005;28:119–22.
  23. Boyle RC, Solberg LI, Magnan S, Davidson G, Alesci NL. Does insurance coverage for drug therapy affect smoking cessation? *Health Affairs (Millwood)* 2002;21:162–8.
  24. Schnoll RA, Rukstalis M, Wileyto EP, Shields AE. Smoking cessation treatment by primary care physicians: an update and call for training. *Am J Prev Med* 2006;31:233–9.
  25. Schroeder SA. What to do with a patient who smokes. *JAMA* 2005;294:482–7.
  26. Orleans CT, Woolf SH, Rothenich SF, Marks JS, Isham GJ. The top priority: building a better system for tobacco cessation counseling. *Am J Prev Med* 2006;31:103–6.
  27. McPhillips-Tangum C, Bocchino C, Carreon R, et al. Addressing tobacco in managed care: results of the 2002 survey. *Prev Chronic Dis* 2004;1:1–11.
  28. Bondi MA, Harris JR, Atkins D, et al. Employer coverage of clinical preventive services in the United States. *Am J Health Promot* 2006;20:214–22.
  29. McMenamin SB, Halpin H, Ibrahim JK, Orleans CT. Physician and enrollee knowledge of Medicaid coverage and tobacco dependence treatments. *Am J Prev Med* 2004;26:99–104.
  30. Robert Wood Johnson Foundation. *America's health insurance plans. The Robert Wood Johnson Foundation addressing tobacco in managed care: the path ahead. Conference report, September 23, 2005*. Available at: <http://ahip.org/content/default.aspx?bc=38|65|67|13834>. Accessed April 6, 2006.
  31. *Washington Post*. Smoking in U.S. declines sharply. *Washington Post*, March 9, 2006. Available at: [www.washingtonpost.com/wp-dyn/content/article/2006/03/08/AR2006030802368.html](http://www.washingtonpost.com/wp-dyn/content/article/2006/03/08/AR2006030802368.html). Accessed March 9, 2006.
  32. 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.
  33. Bentz CJ, Bayley KB, Bonin KE, Fleming L, Hollis JF, McAfee T. The feasibility of connecting physician offices to a state-level quitline. *Am J Prev Med* 2006;30:31–7.
  34. 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.