



**THE BUSINESS CASE FOR TOBACCO CESSATION PROGRAMS:  
A CASE STUDY OF  
GROUP HEALTH COOPERATIVE IN SEATTLE**

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FIELD REPORT

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## EXECUTIVE SUMMARY

The health benefits of a program that helps smokers quit are obvious: smoking is deadly in its own right, as well as a risk factor in heart disease and other illnesses.

But calculating the cost benefit of smoking cessation programs is a murky undertaking. If health providers, insurers, and other payers invest in tobacco programs, they do not reap immediate financial savings for delaying the onset of smoking-generated health conditions. At best, their payback is avoiding higher medical costs down the road.

### **Background**

The negative impact of smoking on health is well documented. It is linked to heart disease, many types of cancer, respiratory infections, stroke, emphysema, miscarriages, and low birth weight. Smoking prevention and smoking cessation programs can lead to lower medical costs in several ways.

The sooner a person quits, the better for the individual, the health plan, and the employer. First, research has shown that it is far better for patients to quit before smoking damages the body rather than later, when a heart attack triggers a doctor's warning to quit. Second, while the financial returns on smoking programs are not immediate, they do occur in three or four years. Third, current smokers have higher medical costs than former smokers.

### **Program Design**

Despite the weak evidence for a business case for cessation programs, in 1992 Group Health Cooperative (GHC), an integrated health system and health plan based in Seattle, made tobacco cessation a top priority of its preventive care program. GHC's goals were to develop programs to decrease tobacco use by its employees, and cut in half the 20 to 25 percent smoking rate among adult enrollees in its health plan.

GHC developed a clinical pathway for tobacco cessation, a specific methodology used throughout the system to identify smokers and engage them in smoking cessation. In time, GHC created the Free & Clear program, with a framework built on the National Cancer Institute's prevention model (i.e., ask, advise, assess, assist, arrange). Free & Clear is a telephone-based behavioral counseling program that includes a pharmacotherapy component.

GHC created a methodology for medical staff to identify smokers and draw them into the cessation process. First, it treated tobacco status as a vital sign, like blood pressure and pulse, which like those signs should be documented and charted. By 1997, identifying

the smoking status of patients, assessing their willingness to quit, and referring them to the program were all noted in medical charts as part of standard medical practices at GHC.

The Free & Clear program is offered to GHC employees as a covered benefit. It originally required a \$45 copayment, which was later abandoned when evidence arose that it was a financial barrier to participation. The program also is sold to other health plans, union benefit funds, and employers. These clients set various copayments for their members. Collectively, Free & Clear's clients directed 10,500 people to the program by 2001.

### **Health Benefits**

A record number of smokers use the cessation program each year. Free & Clear's quit rate runs 25 to 30 percent, a high rate of success for such programs. "Quitters" were defined as people who could be reached one year later and who had not had a puff within the last month. (Many other programs have artificially higher quit rates because they exclude from their statistics people who can not be contacted at the end of one year.)

### **Potential Savings and Costs**

It is not possible for a health plan or employer that offers Free & Clear to calculate a traditional return on investment, though there are clearly economic benefits to smoking cessation (Exhibit A). In fact, the purchaser may not get reimbursed for its investment for years, if at all. The impact of quitting smoking on medical costs is not apparent for at least three years, and in that time, the successful quitter may have moved on to a different employer or health plan.

GHC believes that a traditional business case approach can not be applied to the prevention and decrease of tobacco use. Prospective purchasers of Free & Clear are advised not to calculate a ROI, but to think in terms of avoided costs, which make smokers less expensive to care for in the future. The health system markets Free & Clear with a "cost and savings" estimator for prospective purchasers of the program that assists them in calculating whether Free & Clear makes financial sense. It provides employers with data on the estimated medical costs of smoking and on the impact that smoking has on productivity at the worksite.

GHC's fixed costs in running the program are not clear, because many of them are embedded in other infrastructure. Variable costs of delivering the service are covered by commercial sales of Free & Clear and by a capitated payment from the health system to deliver the program to GHC health plan enrollees.

## **Policy Implications**

In the current payment system for health care, those who invest in tobacco programs usually are not rewarded for delaying the onset of serious health conditions. Quitting smoking generates savings that accrue from avoided medical costs. Few payers give financial rewards for this commitment to quality, with the exception of large employer groups that are focused on outcome and quality measures.

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### Exhibit ES-1. The Economic Impact of Smoking

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- The Centers for Disease Control estimated that \$2.06 was spent on smoking-related medical care for every one of the 24 billion packs of cigarettes sold in 1993.
  - Employers lose an estimated \$50 billion yearly in productivity and lost earnings because of smoking-related diseases.
  - Smokers have higher medical costs than non-smokers—an estimated \$1,041 more per year.
  - Turnover, absenteeism, life insurance premiums, and disability costs are higher for smokers than for non-smokers.
  - Smoking breaks make smokers less productive on the job than non-smokers.
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## **THE BUSINESS CASE FOR TOBACCO CESSATION PROGRAMS: A CASE STUDY OF GROUP HEALTH COOPERATIVE IN SEATTLE**

### **Background**

Headquartered in Seattle, Group Health Cooperative (Group Health, GHC, or the Coop) is the largest nonprofit health care cooperative in the United States. The Coop is an integrated health system whose managed care health plan served nearly 600,000 members across Washington State as of March 2002, and whose care delivery system includes a hospital system in Seattle, 25 to 30 primary care clinics, three specialty centers, skilled nursing, home care, a pharmacy, and a laboratory. Group Health is a mixed-model HMO. In the urban and suburban areas west of the Cascades, where 75 percent of its membership resides, it has a predominantly staff model with nearly 900 physicians. In the rural, eastern part of the state, most GHC care is delivered through networks of contracted primary care physicians and specialists. All of GHC's contracts with commercial and government purchasers are prepaid, capitated contracts. About 13 percent, or 75,000 of its enrollees, are reimbursed by Medicare, 4 percent, or 25,000 enrollees, are reimbursed by Medicaid, and the rest are reimbursed by commercial payers, including private employers, public school districts, and health plans for federal, state, and city employees.

GHC was founded in 1947 on the principles of preventive health, and the cooperative has been a pioneer in preventive care, preventive research, and health promotion ever since. An outside assessment by a group of prevention experts and evaluators in 1991 identified GHC as the leader in integrating prevention into medical care practice. Since the evaluators felt that GHC had no peer, they made their ratings and recommendations against an ideal "gold standard."<sup>1</sup>

GHC's Center for Health Promotion (CHP) and its sister organization, the Center for Health Studies (CHS), emerged during the 1980s. By 2001, CHP housed about 150 people, and CHS nearly 200. CHP takes an aggressive and wide-ranging approach to prevention; it tackled behavioral change, for example, which is not part of the traditional medical model. CHS used the Coop as its laboratory, and most of its research studies were intertwined with Coop activities in terms of services or financing. When, for example, CHP embarked upon tobacco cessation, the health plan tried different copayments and coverage options for its tobacco-related benefits, and CHS studied the differential impact of these benefits on participation in the tobacco program.

In 1992, Group Health prioritized its prevention activities and located them in an explicitly articulated quality improvement framework. Tobacco cessation was designated

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<sup>1</sup> Kristine Odel and Julie Wilson, "Report: Board of Visitors on Prevention at Group Health Cooperative of Puget Sound," March 1991.

its top prevention priority. Over the next two years, Group Health developed a system-wide, quality infrastructure overseen by a steering committee that reported to the Executive Council. It organized its efforts through “clinical roadmaps,” which were designed to achieve continuous improvement in outcomes in several areas (e.g., heart disease, diabetes, immunization, pregnancy, tobacco users, depression, and breast care).

Over the next several years, the major challenge for the roadmap teams and the Quality Division was to transfer ownership of the prevention-oriented roadmaps from themselves and their clinical developers to the care teams in the primary care clinics. Group Health clinics had been used to local autonomy, and some tensions arose when they were asked to adhere to system-wide guidelines. A second challenge for the Quality Division and its sponsors was to justify financially the prevention/quality approach, particularly during and after the serious financial problems the organization faced during the mid-1990s.

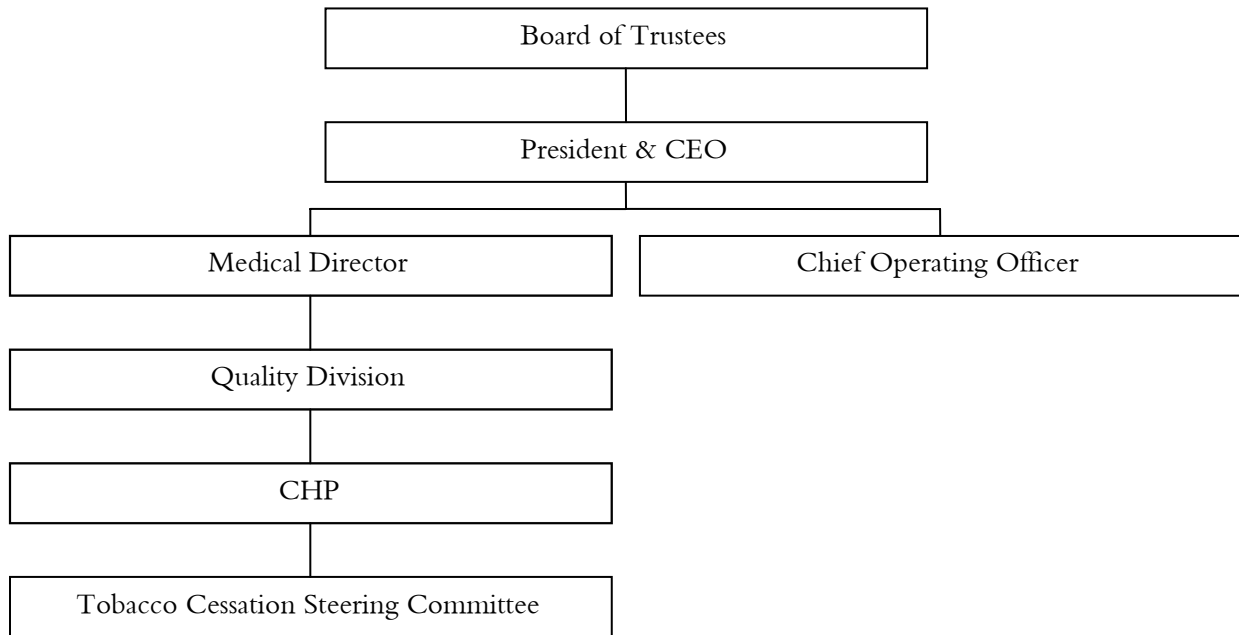
In early 2000, GHC reorganized the eastern and western parts of its delivery system into a functionally and organizationally unified, state-wide system of care under the chief operating officer. GHC’s two, separately developed quality programs were merged at the corporate level.<sup>2</sup> A year later, the clinical work of the Quality Division was moved under the administrative sponsorship (medical director and chief operating officer) of the delivery system. Clinical Quality thereby became integrated into the line operation, emphasizing that quality was owned by the people who deliver the care (Exhibit 1). The centralized Quality Division, which also reported to the medical director, still retained responsibility for setting strategic direction, developing programs and tools, coordinating implementation, and reviewing performance. The rationale for this reorganization, as explicated by Hugh Straley, MD, associate medical director and the clinical lead for quality in the Quality Division, was that the program needed “Coop-wide sponsorship and system-wide development and implementation of tools and automated reporting systems, as well as system-wide processes for giving feedback so that practitioners understand how they are doing on these initiatives. At the same time, by putting more control in the delivery system and making them the owners of quality who also help establish priorities in quality initiatives, we are better aligning everyone’s self-interest.”<sup>3</sup>

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<sup>2</sup> The prevention, quality, and tobacco cessation initiatives discussed in this case originated in the western part of the organization, which was called Group Health Cooperative of Puget Sound. For simplicity, the case will refer to “Group Health” throughout as if it were one entity that had remained the same over the decade. Other changes (e.g., in people’s roles and titles, what is included in CHP) have also been simplified or compressed in order not to overburden the case with unnecessary detail.

<sup>3</sup> All quotations from interviews conducted by the author from September 2001 to February 2002.

## Exhibit 1. Locating Tobacco Cessation at Group Health Cooperative



Source: Group Health Cooperative.

Following several years of operating in the red, Group Health broke even in 1999 and made money in 2000. Cheryl Scott, MHA, who became chief executive officer in 1997 and brought GHC into the black in a viciously competitive environment, came to the conclusion that a traditional business case could not be made for tobacco cessation (and several other preventive or chronic care) programs. “I have been at this for 10 to 15 years. In my prior job as chief operating officer, I had to defend these programs every year. I have fallen on my sword over and over on the issue of a business case, and have never been able to figure one out.” Scott distinguished here between an economic case (for which, she said, it had been proven over and over that tobacco cessation saved money downstream) and a traditional business case: “Did your premium go down because of having a tobacco cessation program? Actually it’s just the opposite; given the infrastructure needed to make these programs work, and given the way premiums are set, the premium goes up.”

Even so, Scott had retained the Tobacco Roadmap and its programs, though funding for the tobacco roadmap coordinator position was in jeopardy in early 2002, and funding for new initiatives was in doubt. When asked why she thought Group Health had sustained its commitment to tobacco cessation over a difficult decade, Louise Liang, chief operating officer and medical director from 1997 to 2001, stated, “To an amazing degree, because it’s the right thing. This is an example of why Group Health is such a wonderful



clinical environment: you would never be asked to do the wrong thing. Group Health is forever raising things we think we should do and no one else is doing.”

### **Integrating Prevention and Quality Improvement into Medical Practice**

Prevention is defined by GHC as “methods to maintain health and prevent morbidity and mortality at three stages of development: primary, secondary, and tertiary.”<sup>4</sup> Primary prevention refers to interventions designed to change behaviors that cause a risk to health before an illness appears, such as smoking cessation. Secondary prevention refers to early detection of illness at a point when intervention can lead to a cure, such as mammograms. Tertiary prevention describes interventions designed to prevent added morbidity or mortality due to an existing illness, such as chronic disease management.

*Clinical Roadmaps.* In 1992, drawing on CHS research and some of the prevention work done by CHS director Ed Wagner, MD, MPH, on diabetes, and by Robert S. Thompson, director of the Department of Preventive Care, a multidisciplinary, quality steering committee prioritized 15 populations out of 123 disease-related group categories and conditions as candidates for clinical roadmaps. The committee was led by Dr. Straley. Candidate conditions had to be preventable and treatable, the source of significant morbidity and mortality, and entail high medical costs. For several of these populations, evidence-based roadmaps were designed over the next year or two to organize system-wide improvement efforts. The roadmaps themselves were developed by teams composed of multidisciplinary representatives from the delivery system. Each roadmap had medical and administrative co-chairs as well as a roadmap coordinator who had full-time administrative responsibilities for implementation of the roadmap. Targets and measurement guidelines were established, and strategies for outcomes improvement were laid out.

*Care Team Ownership.* Translating the roadmaps and other care management and quality initiatives from the developers to the local implementers, and getting the care team to take ownership of these initiatives, proved to be major learning experiences for the Coop. In the early years, data on clinical outcomes was hard to come by and mainly available on an annual basis. Roadmap developers sometimes tried to hand off their work directly to people in care teams, without proper transition or training. Achieving local ownership required sustained effort, some changes in approach, making feedback available in a timely way, developing liaison positions and mechanisms, and making all levels of management accountable for roadmap and quality performance.

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<sup>4</sup> Ibid.

In 1995, Susan Crissman, RN, became the lead change agent for development and implementation of roadmaps, as well as for implementing other work regarding clinical and service quality and care management initiatives. Working under the Quality Division and reporting to the executive director for quality performance improvement, Crissman and her staff adopted a “sponsor–agent” model for implementation. Sponsors were line managers who held their teams accountable for this work, while agents or advocates were helpers who assisted the sponsor and the care team to make sure the changes happened locally. Crissman, her staff, the roadmap chairs, and the roadmap coordinators worked with regional medical liaisons, the local quality groups at each clinic, and the clinics’ medical and nursing directors. They identified local champions—physicians, nurses, and medical assistants—as process owners for moving the work forward.

Concurrently, a quality committee structure was put in place at the organization-wide level. According to Crissman, this structure “reinforced the ability to flow the work systematically. We also developed a closely integrated network of people who act as agents to support the implementation of the work.” As it became possible to provide feedback quarterly (and eventually monthly) on more and more measurements, the change agents found this timely data to be critical in motivating the caregivers, improving and monitoring their performance, and developing and empowering local leadership.

Most important, sponsors on the managerial level became engaged through the performance agreement process, which was developed in 1997. From top leadership to local clinic managers, managers became accountable for the measurable performance outcomes of those they managed. Each signed a performance agreement that included a number of clinical and service targets. Among top administrative and medical leadership, performance-based compensation for 10 to 15 percent of salaries was activated if certain clinical targets and service satisfaction targets were met.

The latest step in this process was the reorganization of clinical quality. As Liang summarized it, “The placing of the quality structure directly under the medical director and chief operating officer emphasizes who the customer is and who owns the process. The reorganization emphasizes that quality is owned by the people who deliver the care.”

### **Tobacco Initiatives at Group Health**

In 1982, Group Health was one of the first health care organizations in the country to become smoke-free. Its Center for Health Studies (CHS) and Department of Preventive Care conducted population-based smoking research throughout the 1980s. Wagner, Thompson, and senior CHS investigator Sue Curry, Ph.D., became national figures in prevention and tobacco research. In 1990, Group Health convened an interdisciplinary

group to develop an explicit long-term plan for decreasing tobacco use among its members. Sponsored by the Committee on Prevention and under the tutelage of Thompson, the group took on the task of creating a long-term, systemic approach to decreasing tobacco use.

The Tobacco Use Subcommittee, which was chaired by Tim McAfee, M.D., M.P.H., followed the parent committee's six-criteria protocol for disease prevention and health promotion issues (Exhibit 2). It undertook a massive literature review, talked to national experts, and independently reviewed a good deal of evidence as well as examining guidelines such as the National Cancer Institute's "How to help your patients stop smoking." The Subcommittee laid out a multifaceted approach to decrease tobacco use, which was described as "the leading preventable cause of death in Group Health members."

#### Exhibit 2. Committee on Prevention Criteria for Disease Prevention/Health Promotion Issues

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1. The condition (disease or risk factor) is important.
  2. The disease or risk factor has a recognizable presymptomatic stage.
  3. Reliable methods exist for detecting the condition (disease or risk factor) which are acceptable with regard to risk, reliability, validity, cost, and patient discomfort.
  4. Modification of the risk factor or therapy in the presymptomatic stage reduces morbidity and mortality more than after symptoms appear.
  5. Group Health Cooperative (GHC) has the facilities and the capacity to address the risk factor or disease condition once it is identified.
  6. The costs of implementing a "state of the art" approach to the condition in question are justified by the benefits that would result.
  7. The recommended approach is consistent with the recommendations of respected authorities, consensus panels, and community standards, or the differences in recommendations are addressed adequately. (This criterion was added by the Tobacco Use Subcommittee.)
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Source: Group Health Cooperative.

The proposed tobacco initiative helped to enlist top-level sponsorship. The Subcommittee's success was enhanced by the parent committee's identification of tobacco cessation as GHC's top prevention priority in 1992. This decision followed upon analysis of all prevention issues at GHC and was backed by an outside board of national visitors. Located in the Center for Health Promotion and reporting through the Quality Division, the fledgling group soon became the Tobacco Roadmap Team (referred to simply as the Tobacco Roadmap). Resources were committed to a medical champion/co-chair

(McAfee), an administrative co-chair (Julie Wilson), and a full-time roadmap coordinator (Caren Massari). A Tobacco Steering Committee was formed to advise the Roadmap.

Over the next decade, tobacco initiatives and programs became one of the primary activities undertaken by the Center for Health Promotion, and its staff grew to more than 100 people. McAfee became a highly respected national figure in tobacco cessation, well known for his articulate advocacy and activism. Composed of about 10 members (including Curry, a pharmacist, social workers, other doctors, and measurement specialists), the Steering Committee initially met monthly and later met about twice a year.

*Overall Approach.* The Subcommittee's report became the charter document for Group Health's comprehensive tobacco cessation efforts. It identified tobacco use as a disease in its own right—an unusual position at the time—as well as a risk factor for other diseases. It argued that tobacco use should be treated with the same vigor as other diseases with significant morbidity and mortality rates. Tobacco services, it argued, should be a covered benefit for which the clinical effectiveness of the services had been established by research. In-house programs should be developed to educate GHC staff about tobacco use and to decrease its use among GHC employees. Population-based programs should be developed to decrease tobacco use among Coop members. The subcommittee's ambitious goal was to halve the 20 to 25 percent smoking rate among adult GHC members by the year 2000. Furthermore, tobacco should become a top lobbying priority for GHC's legislative affairs office—a somewhat controversial and unusual step for a health plan at that time. Thus, the approach was directed at individual clinics, the total GHC population, and the larger Washington State community.

*Roadmap Administration.* All quality and roadmap work ultimately reported through diverse matrices to the same executives, but some roadmaps reported to Clinical Planning and Improvement while the Tobacco Roadmap and three others reported to CHP. Even though roadmap development was a conceptual activity, tobacco cessation (as well as the breast cancer, cervical cancer, and immunization roadmaps) had an operational component. In addition, because tobacco use was defined by GHC as both a disease in its own right and a comorbidity factor in other diseases, the Tobacco Roadmap did not own its own population of potential service users; instead, it shared distribution channels and points of direct patient contact with other roadmaps.

## **Tobacco Roadmap**

When the Tobacco Roadmap Team began meeting, they asked themselves questions such as: What do we need to do? What are our targets? What behaviors do we need from clinicians to make this work? How are we going to enlist them in doing brief tobacco

interventions? How do we embed these practices in every primary care appointment? How do we measure what has been done and provide feedback? How do we get the resources?

The Tobacco Roadmap’s framework was built upon the National Cancer Institute’s “4 A’s model,” to which it added a fifth step (Exhibit 3). A critical component of this model was the “Free & Clear” smoking cessation program. This telephone-based program was developed as part of a University of North Carolina/Group Health randomized, clinical trial, with Tracey Orleans as principal investigator. Once its efficacy was established, it was provided as a service not only to Group Health members but also as a marketable cessation product to other health plans and employers (Exhibit 4). Those who had played leadership roles in the work of the Tobacco Roadmap agreed that Free & Clear was a critical part of GHC’s tobacco initiatives because counseling and following up with motivated smokers remained major barriers for clinicians. However, Free & Clear was only a piece of a larger effort. Caren Massari, the first Tobacco Roadmap coordinator, spoke for many when she said,

It was helpful that we had our own cessation program, we could build on that. The huge amount of work we did was mostly clinically related: how to integrate tobacco status and services into the everyday processes of physicians and medical systems, the documentation process we created, the measurement and outcomes analysis system that had to be set up. The clinical work is where we were just way ahead of anybody else in the country.

### Exhibit 3. The Five A’s to Helping Smokers Quit

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<b>ASK</b>	Systematically identify all tobacco users at every visit.
<b>ADVISE</b>	Strongly urge all tobacco users to quit.
<b>ASSESS</b>	Determine willingness to make a quit attempt.
<b>ASSIST</b>	Aid the patient in quitting by providing or referring the user to practical counseling and recommending appropriate pharmacotherapies.
<b>ARRANGE</b>	Schedule follow-up contact.

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Source: Group Health Cooperative.

## Exhibit 4. GHC's Tobacco Cessation Services

**Free & Clear Program.** “Free & Clear” was the brand name of a set of tobacco cessation services offered by Group Health to its members and sold to outside clients. The two major components of the program were behavioral counseling and pharmacotherapy, usually in the form of nicotine replacement therapy (e.g., nicotine gum or patch) or Zyban. The counseling component could be delivered through six to eight group sessions, or through a set of front-end loaded, proactive telephone calls made by a behavioral counselor over a 12-month period. The counselor ascertained where people were in the quitting process, and began working with them from that point. The smoker self-paced the calls and her/his targets.

Behavioral counselors, who had a bachelor's and preferably a master's degree in counseling, were trained in providing tobacco cessation counseling services and focused on helping the client change their smoking behavior. They were trained in a quitting strategy, which included setting a quit date. Although counselors had sophisticated computer algorithms that cued them and made recommendations geared to the client's responses or state of mind, they had to draw on their empathic abilities, their repertoire of ways to elicit information and explore motivations for quitting, and their skills in providing support and shoring up motivation. The system kept all the notes made by a counselor, making it easy for the same counselor or a new counselor to know where the last interaction had left off.

An intensive clinic was piloted for smokers at GHC who, though still motivated, were having a particularly difficult time quitting, and had been through Free & Clear several times. Often, these individuals had a psychological diagnosis (e.g., depression, anxiety) or a serious medical condition. These smokers were referred to the intensive clinic by their physicians, and seen by an interdisciplinary team that had a doctor, nurse, counselor, and sometimes a pharmacist. A fourth, compressed mode of delivery was being explored for uninsured smokers and those insured by Medicaid.

About 25 to 30 percent of smokers who enroll in Free & Clear quit smoking—a high percentage for such programs. Quitting was measured by self-reports of Free & Clear enrollees that they were tobacco-free 12 months later. An external scientific advisory group validated GHC's mode of measurement, deeming it the most appropriate for the type of intervention.

**Quit Lines.** CHP negotiated contracts to support Quit Lines in seven states: Georgia, Maine, Minnesota, Oregon, Utah, Washington, and Wisconsin. This revenue stream came from state-sponsored health care systems. Quit lines offered a range of services, from brochures and referrals to counseling for the uninsured. GHC structured contracts so as not to provide a disincentive for private health systems to create their own programs. MacAfee explained, “We have tried to work through with state health departments the impact of our providing quit lines on health systems in their state. We have a database of what all the health plans offer, and we provide the more proactive counseling services only to the uninsured. When callers are members of health services who have strong telephone cessation services available, we triage phone calls directly through to the health plans. We do not want to disincen the health systems by having them think the state is providing services. Health systems have the capacity to provide a level of integration and intensity of service that goes beyond what a state can provide.”

The efficacy of Free & Clear was linked to the work done by the Tobacco Roadmap to reduce barriers to access. In addition, the Tobacco Roadmap developed systems, processes, measurements, and documentation to proactively and routinely trigger medical staff interventions that identified smokers and supported the quitting process, and that ensured that its work was being implemented throughout the Group Health system. By 1997, identifying the smoking status of patients, assessing their readiness to quit, and referring them to cessation services was becoming embedded as standard medical practice at Group Health. The integration of tobacco interventions into daily practice required overcoming resistance on the part of local clinicians, enlisting senior management, getting more timely feedback to clinicians, making tobacco use a vital sign, and incorporating tobacco measurements into the performance assessment system. Massari underlined leadership support as the most critical component of the Roadmap's success:

Because we had buy-in from leadership and the resources to back it up, we were able to do the really time-intensive, manual pulls of medical files that allowed us to get the preliminary data. Although we weren't able to get feedback to physicians quickly enough in the early days, when the Coop voted to make tobacco the number-one prevention priority, that got tobacco the attention and resources it needed to get us to the point where we could provide timely feedback and enlist tobacco champions at the local level.

*Reducing Barriers/Facilitating Access for Participants.* The Tobacco Roadmap believed it was important to reduce barriers (e.g., geographic, financial, mindset) to tobacco services participation. It designed the behavioral counseling of the Free & Clear program so it could be delivered either through group sessions or telephone sessions. Cessation rates of group and telephone participants were comparable after one year, and participants overwhelmingly chose telephone delivery.

The Tobacco Roadmap also advocated that tobacco services be a covered benefit, just as any other disease treatment would be covered. In 1992, the team began working to convince the organization to provide coverage for its behavioral program with a copayment. A year later, nicotine replacement therapy (NRT) was available (in the form of patch or gum), its treatment efficacy established, and GHC coverage of NRT and of Free & Clear for members enrolled in a tobacco cessation program was in place. (The patch was expensive and available only by prescription at that time.) Initially, the standard benefit included a \$45 copayment for Free & Clear. By 1997, a CHS study funded by the Robert Wood Johnson Foundation on the effects of varying copayments determined that

such payment structures were a major barrier to participation.<sup>5</sup> This led to the removal of all copayments for smoking cessation services among GHC members (except for the usual pharmacy copayments for medications, usually \$5 or \$10).

Straley applauded this set of choices. “It was the first time we linked policy coverage to a preventive care behavior. It is an example of what can be done when you have a health plan, a research arm, and preventive program all under one roof.” GHC also linked payment for any pharmacotherapy to participation in a behavioral program. McAfee explained:

In this [American] culture, people are motivated to use drugs. The research shows that people are going to be much more successful and get the outcome they want from these cessation drugs if they also use a behavioral program. We were looking for a synergy between people’s energy for drug use and our knowledge about the markedly increased efficacy of these drugs when combined with behavioral counseling.

The first year Free & Clear was offered, 180 GHC members signed up. As financial barriers were removed, phone access was enabled, and program marketing became more aggressive, enrollment skyrocketed (Exhibit 5). Not only did enrollment jump when the copayments were removed, but even more significantly, quitting rates did not change. Thus, a major argument for keeping copayments evaporated. At Group Health and elsewhere, a common argument used to justify non-coverage was that motivation was enhanced when the patient had to contribute something significant out-of-pocket. What Group Health discovered was that tobacco services copayments were functioning primarily as a financial barrier, rather than as a selection factor for commitment to quitting.

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<sup>5</sup> S. J. Curry et al., “Use and Cost Effectiveness of Smoking-Cessation Services Under Four Insurance Plans in a Health Maintenance Organization,” *New England Journal of Medicine* 339 (September 3, 1998): 673–79.



Exhibit 5. GHC Members' Usage of Free & Clear

Year	Total Number of GHC Enrollees (Combined Group and Network Enrollees) <sup>a</sup>	Estimated Tobacco Use Prevalence <sup>b</sup>	Estimated Number of Tobacco Users <sup>c</sup>	Total Number Registered in Free & Clear <sup>e</sup>	Percentage of GHC Estimated Users Registered in Free & Clear
1992	475,124	N/A	N/A	180	N/A
1993	477,809	17%	N/A	2080	N/A
1994	510,411	16%	40,675	1791	4.4%
1995	584,323	16%	41,055	1501	3.7%
1996	618,182	15%	44,795	1404	3.1%
1997	649,948	16%	46,654	3112	6.7%
1998	625,850	14%	48,103	3733	7.8%
1999	562,268	15%	53,069	4248	8%
2000	541,253	14%	51,451 <sup>d</sup>	4563	8.9%
2001	548,824	N/A	N/A	5170	To Be Determined

<sup>a</sup> Source: Group Health Cooperative Market Development Department.

<sup>b</sup> Method of identification of tobacco use has varied over time: System Satisfaction Survey, 1993–1996; National Committee for Quality Assurance Member Satisfaction Survey, 1997; Consumer Assessment of Health Plans Adult Survey, 1998 to present.

<sup>c</sup> Based on estimated number of adult tobacco users (Puget Sound Regional Division only) per Group Health Cooperative's *Key Indicator Report of Clinical Populations*.

<sup>d</sup> Projected; actual numbers not yet known.

<sup>e</sup> Source: Free & Clear database.

Of the 5,170 GHC members who enrolled in Free & Clear in 2001, 85 percent chose to do the program over the telephone; in prior years, the telephonic component ran as high as 90 percent. By that time, GHC members represented only one-third of the people who participated annually in Free & Clear. The other two-thirds came from a growing number of organizations (e.g., large employers, managed care organizations, health plans, state-funded quit lines, health and benefit funds associated with labor unions) that purchased the program for its members, employees, or uninsured citizens. In 2001, 10,500 people from these client organizations participated in the Free & Clear program. Whereas GHC had 100 percent coverage for the program, the benefit varied among outside clients. Sara Tiffit, marketing manager for Free & Clear and for Quit Lines, emphasized the proactive role that counselors played in reducing barriers to access and putting together the pieces for the participant:

One of the issues in making cessation work is reducing barriers. Every little barrier you take away—like a \$25 copayment—helps; all sorts of data support this. Our clients often offer a pharmacy benefit separate from their general health care benefits package, and separate from their contract with us for Free & Clear counseling. Our counselors have prompts on the screen so that they can tell the smoker, “Did you know that you can get

NRT or gum covered by your plan (or your employer)? Here is how you access the benefit.” Our counselors tell them how to make it all work together. We help them determine which type of drug they want to use—patch, gum, Zyban—the pros and cons of each, and probably the level they need. The counselors have a protocol to help them select the right drug and dose. To make it even more seamless, we can order a patch or gum through our direct mail order pharmacy so they don’t have to go out and buy it.

The protocol followed by counselors was a clear algorithm that suggested conservative dosing. If someone fell outside of its parameters, counselors had to consult with the pharmacist (who had been with GHC for years), and/or with McAfee or Dacey.

*Reducing Resistance Among Clinicians.* The standard response of GHC clinicians to quality initiatives was that there was not enough time to add them into their busy schedules. The Tobacco Roadmap tried to reduce the practice burden by having CHP take responsibility for delivering the time-consuming aspects of the 5-A process (i.e., assistance and follow-up) through Free & Clear, and by suggesting that the first step (i.e., asking about tobacco use) be done by whomever was escorting the patient into the examining room, thereby focusing the physician’s role on giving brief advice about quitting and making an assessment of readiness to quit. Rachel Grossman, the second Tobacco Roadmap coordinator, summarized the impact of this system:

The fact that we have Free & Clear has made it much easier for our clinical practice teams to really meet all of the 5A’s because we took some of that work away from them. They had to determine tobacco status, and intervene with patients who were found to be chronic tobacco users or recent quitters, but their main job was done once they made a successful referral; we did the rest.

Grossman’s comments were amplified by surveys done of several hundred physicians, nurse practitioners, and physician assistants fairly early in the program’s life. The tobacco program was the most popular health promotion program at GHC because it made the tobacco issue easier for physicians, nurse practitioners, and physician assistants to deal with, and, for the first time, created an effective resource to which they could refer tobacco users.

Clinicians were asked to make brief interventions, to document these encounters, and to continue identifying patients’ tobacco status at every visit. Straley acknowledged that “one of the frustrations practitioners have in this new era of quality and measurement

is the need to document. If something is not documented, we don't know that the event occurred. The electronic medical record will automate documentation, you will only have to enter it once, and you can get it out whenever and wherever you need it."

When pharmacotherapy was integrated into the program, CHP again relieved the care teams of another time-consuming responsibility. CHP counselors screened candidates according to a protocol, prescribed the drugs, and were able to authorize prescriptions for participants based on standing orders signed by program physicians. McAfee recalled, "We were quite nervous about it initially because no one had ever done anything like this to our knowledge. Despite our elaborate screening protocol, we had real concerns about the potential for doing harm." He applauded Pharmacy staff who worked collaboratively with CHP as the "unsung heroes" in this new process. Despite providing pharmacotherapy in this manner to thousands of patients, there were no serious adverse events other than a few unpredictable allergic reactions.

Clinicians' resistance to the Tobacco Roadmap centered around issues other than time constraints, however. Sallie Dacey, MD, who succeeded McAfee as Roadmap co-chair when he became director of CHP in 1997, described the paradigm shift required to enlist physicians:

When we started, we would go out to the clinics and ask, "How can we get this to be done?" People would say, "You can't. This is not what we do. Medicine is not about changing people's behavior." We had incredible pushback. Most physicians have not been trained in a public health manner or to deal with health behaviors, so it is a real paradigm shift for them. The reason tobacco has been able to move forward is that there is so much research out there that we were able to show them the data—and doctors respond to data. We no longer hear, "We can't do this." We hear, "This is difficult," or "We need to fix this," or "Can you help us with that?"

Dacey identified another barrier for clinicians' support of the program: low positive reinforcement for tobacco interventions. Primary care physicians, she said, carry an expectation that their cure rates will be very high. "If you can cure 95 percent of all people you see with bacterial pneumonia, but only one out of three tobacco users quit using the Free & Clear program, and many fewer who try to quit without a program, the positive reinforcement that comes from feeling that you are really helping somebody is not there as strongly with tobacco." When this lower reinforcement was juxtaposed with all the things the physician was supposed to accomplish in a 12-minute visit, the pressure to prioritize could mean that a tobacco intervention could fall off the list.

*Measurement and Documentation.* The Tobacco Team set two performance targets for clinics: documentation of smoking status and documentation of advice to quit. During the first several years of the Roadmap, that information had to be dug out of charts—a costly and arduous process that generated only yearly data—or culled from questions in GHC’s system satisfaction survey. McAfee recounted the consequences of slow feedback and how it began to improve.

If you didn’t give the clinics pretty rapid feedback, they moved on, especially initially, when this was a new behavior. They needed to know if it was working on a monthly basis. We encouraged them to have local measurement activity in addition to what we were doing. We helped them to understand why the numbers were the way they were, and had comparative data for them to see what their colleagues were doing. By popular demand, we moved to doing quarterly chart audits.

Quarterly measures, which were included in clinic practice reports, enabled more timely feedback and comparisons. From mid-1993 to mid-1997, variation among clinics ranged widely, with some documenting the smoking status of 90 to 95 percent of patients and others documenting only 20 to 30 percent of patients. McAfee, Dacey, Massari, Crissman, and other GHC staff tried to identify and publicize the factors for successful identification rates, and to reduce barriers contributing to lower rates. By 1997, according to reviews of clinical charts, identification of tobacco use status shot up from 55 percent to 98 percent across all clinics, and intervention/advice to quit rose from 19 percent to 52 percent.

Frustrated by the limitations of chart audits, the Tobacco Roadmap slowly but surely began building the foundation for a tobacco database. In 1998, it received organizational support to move forward. The Roadmap Team was given the challenge of creating a system in which data from every patient encounter would be entered electronically, but which would not overburden individual practitioners or the system. Their interim solution was to use the Treatment Record Form (TRF), filled out by front-line staff for billing and quality monitoring after every patient encounter. Overcoming staff resistance during belt-tightening times, and ensuring that tobacco data were routinely collected in a system designed for billing, presented more challenges for the team. Scott recounted the challenges.

It took a good three years just to change the protocols at 35–40 clinics such that every time you check in for an office visit, the medical system asks you if you smoke, and it is documented in your chart. It took that long to do

the process, the systems, the follow-up, the chart reviews, to make sure the question was being asked. This is obviously a reason to have clinical information systems because the prompts are much more efficient, and the feedback loops become much more immediate.

Crissman commented on the significance of having smoking status coded, “It is coded on the treatment record form, so it is automated and we automatically get this information on a quarterly basis. We provide it to the care teams, and they can monitor their performance in tobacco cessation along with 20-some other measures. It’s going to be even easier and faster when we get into CIS.” Clinical teams received information about their own performance, and that information was made public, so that every team knew how it stood relative to others.

The first, and most important, measure of Free & Clear’s success was its reach into the population (i.e., what percent of smokers used the service each year). GHC reached continued levels of participation that were unprecedented in a health care system for a cessation program. The other critical measurement was the quit rate, which had consistently run 25 to 30 percent. Sara Tiffit, who joined GHC to market Free & Clear in 2000, had come to understand that this was a highly respectable number. “It doesn’t sound that high, but it is darn good in this field. It is not an easy case to make to clients, because they are looking for big numbers.”

Given Free & Clear’s type of intervention, the quit rate was measured in the way deemed most appropriate by an external science advisory group. It was also a conservative measure of success. “Quitters” were those who could be reached 12 months later and had not smoked a cigarette—or even had one puff—during the previous month. “Non-quitters” included both current smokers and any program participant GHC had been unable to contact at the end of the year. Many other programs “cook” their results by not including non-responders, so that, if only 30 percent of participants were reached and half of them were not smoking, the quit rate would be reported as 50 percent. Group Health would report this result as 15 percent (Exhibit 6).

*Clinical Implementation.* Implementation of the Tobacco Roadmap into clinical practice was organized around guidelines and annual performance measures. An implementation manual for the 5A’s model was developed and used as a basis for training clinical teams. Massari recalled, “We had staff going out to clinics doing dog-and-pony shows almost daily for a long time” to help clinics integrate the work around the 5A’s into their daily practice, and document the work that had been done. As Grossman pointed out, “We



# What is a Quit Rate?

A tobacco cessation program's **quit rate**—usually expressed as a percentage—tells how many of the people who entered the program report that they have quit. The quit rate is the outcome measure most often used to compare tobacco cessation programs.

You should ask a lot of questions to be sure you are confident about a quit-smoking program's underlying assumptions and how the program calculates its quit rates. Be wary of programs that report extremely high quit rates—some will claim to have quit rates of 50, 60 or 70 percent.

## Comparing Programs and Quit Rates

Because there are different ways to put together the components of a quit rate it can be difficult to compare reported rates across programs. Here are some questions to ask when evaluating a tobacco cessation program's quit rate.

### **How many participants are included in the quit rate?**

What is more impressive? A program with 100 participants reporting a 40 percent quit rate—meaning 40 of 100 quit—or a program with 60,000 participants and a 30 percent quit rate—meaning 20,000 people quit? Percentages are more meaningful when measured over a large population than when measured over a small one.

Free & Clear reports its quit rate based on the total number of participants over its years of operations, not just a small sample. Our quit rates are robust and solid as a result.

### **When does the program measure quit status?**

The best programs will ask participants to report their quit status at the end of the program, not right after the participant's quit date.

In most of the Free & Clear programs we measure participants' quit status at the end of 6 or 12 months. We ask for quit status of no fewer than seven days.

### **Were all participants included in the measurement?**

Some programs report a large number of participants. That is because plenty of people enroll at the start of the program. But look closely at what happens to those people over time. Does the program track them throughout the course of the program and report on everyone who enrolls? And for those who cannot be contacted when it is time to measure quit status, does the program include them in its calculation of its quit rate? When evaluating a program's quit rate always ask, "who is included in the denominator?"

Free & Clear maintains the highest standard possible when reporting its program quit rate. Individuals who cannot be reached when it is time to measure quit status and calculate the quit rate are **not** dropped out of the calculation—they are included in the denominator as continuing tobacco users.

### **Other Considerations**

Most important, when evaluating tobacco cessation programs be sure to consider the characteristics of your own workforce or membership. Free & Clear can help you design a program that suits your workforce or membership so that you make the most of your tobacco cessation resources.

*"Free & Clear's overall program quit rate ranges from 25 to 30 percent."*



## How Does Free & Clear Measure Up?

Free & Clear's overall program quit rate ranges from 25 to 30 percent.<sup>1</sup> This range was measured for almost 55,000 Free & Clear participants who enrolled and completed the program between 1993 and 1999. These participants were contacted by telephone after completing the 12-month Free & Clear program. The quit rate range represents those who responded that they had been quit for at least seven days at the time of measurement. Those who could not be reached were included in the quit rate calculation as continuing tobacco users.

### How Does Free & Clear Measure Quit Status and Quit Rates?

Free & Clear uses two benchmarks to measure quit status:

#### *Quit 7 - 29 Days*

The first benchmark is individuals who self-report being tobacco-free—not even one puff—for at least seven days.

#### *Quit One Month*

The second benchmark is individuals who self-report being tobacco-free for 30 days or more.

<sup>1</sup> Free & Clear probability model: Quit rate range minimum and maximum, 1/1/93–10/30/99.

had to help people understand how to do the work and how to document the work.” Dacey recalled the importance of peer education and engagement on a one-to-one level:

Early on, we were doing lots of education. What seemed to work best was going into clinics and talking to individual people, getting to know them, and having trainings for medical assistants and nurses and doctors. Someone like myself came in handy because as someone who has been in the system for 10 years, I know lots of doctors, I work with them every day, I do the same job they do, and hearing about it from someone who knows what it is you do was important early on. It was important to have nurses who were behind the system talking to other nurses, MA’s who were behind the system talking to other MA’s, and doctors who were behind the system talking to other doctors.

Group Health had taken another step in institutionalizing its triggers for tobacco intervention by making tobacco status a vital sign. That meant that tobacco status was to be collected and documented in the same way that pulse and blood pressure readings are for any clinical encounter, and displayed so the practitioner could see it. This decision was endorsed by the Quality and Productivity Improvement Council (the permanent successor of the quality steering committee), and went to the Executive Officers’ Council for final sign-off. Some, including Dacey, underlined the importance of having the Roadmap continue to regularly measure and circulate data. “We have made tobacco a vital sign, and are still trying to make sure that this is 100 percent embedded in practice. If we walked away from this now and did not check it, measure it, feed it back, and continue to educate people, I worry that if you went back to any of our clinics three years from now, you might see a significant decrease.” Others, including Liang, thought routine tobacco interventions by clinicians were so integrated that they would stand by themselves as long as the support services (i.e., Free & Clear) were available.

### **Policy and Legislative Work**

Concurrent with in-house work, McAfee worked with the Public Affairs Department to make Group Health a leader in creating a smoke-free environment, provide Free & Clear access to people beyond Group Health members, discourage young people from starting smoking (90 percent of smokers begin before age 21), and use all of Washington’s tobacco settlement monies for tobacco prevention/cessation and health care for low-income people. McAfee was instrumental in forming a coalition with advocates for low-income people and anti-tobacco groups, working out the differences among the participants, and agreeing on principles for the tobacco settlement. They were extremely successful because the state had a supportive governor and because “they were very persistent and aggressive



about what they wanted, but they were able to compromise,” according to Pam MacEwan, vice president of public affairs. All the monies were earmarked for tobacco and low-income health, a practice that several other states followed, but Washington State later sold 20 percent of its settlement money to pay for a budget deficit.

Group Health’s consistent public policy work on tobacco aided its lobbyists in their dealings with legislators. MacEwan described GHC as being in a defensive posture vis-a-vis legislators because of the public/consumer backlash to managed care.

To protect ourselves, to educate legislators and policymakers about our model of care has taken a lot of time, effort, and resources. Persistently working on tobacco over time has not stopped the attacks, but it gives us something else to talk about and another way to work with them. It has helped our reputation with policymakers because they don’t see us just saying, “Don’t do this,” or wringing our hands about money. It has helped us in our ability to influence policy and to build relationships with policymakers.

There were still many challenges to policy work, however. According to MacEwan, few legislators had time to devote to really understanding health care, and most legislators were “overwhelmed by the costs even as they are adding costs with regulations.” For example, some government regulations mandated length of stay for particular conditions, and regulated aspects of care while not regulating other aspects. MacEwan longed for a public forum to discuss tradeoffs. “Everything is additive—quality programs are additive, new drugs in the formulary because patients saw it advertised on TV. There is no credible forum to discuss differences in the services that are available; they appear equally valuable, and they are not.”

### **The Business Case for Tobacco Roadmap**

GHC managers, administrators, and researchers believe that the traditional business case approach is the wrong way to think about prevention and decrease of tobacco use. They have come to this conclusion on either or both of two grounds:

- The traditional return-on-investment model simply does not work given that the structure and drivers of the existing health care system are disconnected from and antithetical to preventive care.
- The traditional business case approach is the wrong way to think about decreasing tobacco use (or prevention in general).

Therefore, the entire issue needs to be reframed. At present, however, people’s ideas about how to reframe the “business case” for decreasing tobacco prevalence are embryonic and disconnected. Sue Curry, who has devoted her career to understanding the smoking cessation process, translating that into effective interventions, and studying the utilization and cost effectiveness of tobacco cessation services, recounted her experience:

I have been at a dozen meetings where someone has said, “We just need to tell the health plans they are going to save money when they invest in smoking cessation programs.” I have often had to be the person who stands up and says, “You can’t tell them that.” *Part of building a business case for smoking cessation is changing the mindset and the culture around what the elements of that business case should be.* This is quite distinct from the sort of business case where you try to collect enough information to convince insurers that it is a good investment of their dollar, and they’re going to see a good return on investment.

*The Dilemma in Prevention.* “We think of ourselves as a managed care organization attempting to metamorphose into a health improvement organization,” McAfee said of GHC. When Karen Merriken, director of health policy development, read the second Institute of Medicine report, *Crossing the Quality Chasm*, and discussed it with her GHC colleagues, what struck them was that, “its conclusions and recommendations for national change bear a striking resemblance to a lot of the work we are doing on internal systems change and how we have organized our quality improvement efforts.” Many of the changes envisioned by the report were beyond the capabilities of any one organization and called for changes in national health care policies and thinking. But, as Merriken pointed out, there were many themes in the report that were “hallmarks of what we do or aspire to do.” The tensions between Group Health’s aspirations and the major concerns of purchasers were articulated by Scott:

We see ourselves as working together everyday to improve the care and well-being of community. We also believe that we are part of a person’s life, and that our prepaid financing mechanism allows us to have the kind of relationship that can last a lifetime. Our aspiration is to be an irreplaceable resource for our consumers and customers. Our relationship with stakeholders is filtered through our purpose and our aspirations.

In this fragmented, unforgiving market, however, purchasers are worried much more about access and affordability than they are interested in what is under the tent. So if you have a tobacco cessation or a diabetes program,

that is fine, but it is not what is on their minds. Will an employer put you on the shelf because you have great chronic care or prevention programs? The answer in most cases is no. Yes, they look at your network, choices, reputation, stability, and some intangibles, but they don't base their decisions on them. The exceptions are very large employers who are showing interest in outcome measures and quality measures.

Because the benefits of decreased health care utilization due to quitting smoking may not show up for three or four years, are hard to capture in a specific departmental budget, and may be lost to the sponsoring health plan if the successful quitter leaves the plan, the investing organization may not reap the benefits of their investment. Liang summarized the dilemma of a preventive model in a fragmented market. "In prevention, the idea is that you do a little more now to avoid costs later. Tobacco is a comorbidity factor for virtually everything, so you can multiply what nonsmokers are likely to cost by that factor. But no one is going to pay me to decrease tobacco use because in a fragmented care system, the levers are disconnected. If I never see the money that is saved, how do I get reimbursed? I don't."

Despite the financial pressures on Group Health (which were intensified by extremely low Medicare reimbursement rates and price-based competition described by outside observers as "vicious"), its support for the Tobacco Roadmap and CHP has continued for a decade. The most basic reason in the minds of GHC staff is, in essence, "because clinically, it's the right thing." Tobacco remained one of Group Health's few preventive programs because of McAfee's leadership, according to McEwan: "Tim has provided a lot of focus, coherence, and persistence to keep us on track." Liang concurred, "In Tim, we have a very special champion. He is very single-minded about tobacco cessation, and very articulate. He is a classic, old-fashioned, activist advocate. The power of that energy and passion, especially when you figure it is the right thing to do, gets you a long way."

Full program support is, however, becoming increasingly difficult to sustain. Several roadmap coordinator positions have been lost in recent years. In early 2002, the future of the tobacco coordinator position was in question. New initiatives (such as the combination of intensive clinic and pharmacotherapy) have no clear funding, and even firm commitment to the measurement of tobacco status seem to be eroding. Less vulnerable, however, are the tobacco benefit and Free & Clear program. "Once the tobacco benefit had been a part of the health plan for a couple of years, and once the phone-based system was in place with pharmacotherapy integrated into it," McAfee said, "there has *never* been any question from anyone as to whether they should be maintained."

*Microeconomics of Free & Clear.* In marketing Free & Clear, Tiffit has wrestled extensively with two questions: What does it cost to deliver a unit of Free & Clear service to a person who calls in? How does GHC help employers and health plans (and other external customers) decide if their investment in Free & Clear makes financial sense? The first question points to the need to differentiate among the costs and investments in tobacco cessation at Group Health, and decide which apply to the delivery costs of Free & Clear. The second question shifts the focus to the economics of GHC clients.

*Costs of Decreasing Tobacco Use at GHC.* The costs of tobacco cessation at Group Health are not at all clear, particularly because so many of them are embedded in enabled by infrastructure, or have themselves become infrastructural. The issue is further complicated by the two sets of ongoing expenses: the costs of delivering Free & Clear and the programmatic costs that focus on clinical implementation and institutionalization of tobacco cessation in everyday practice. A potentially workable set of categories might be the following:

A. *Start-up costs* are the costs of developing the program from scratch. These can be considered research and development costs and be subdivided into two groups:

1. *Costs of building and testing the service model:* Group Health, with the help of co-funders and collaborators, built and tested the model for the service itself (Free & Clear). This included conducting, in conjunction with the University of North Carolina, the randomized, controlled trials that validated the effectiveness of the components of Free & Clear. This was funded principally by the National Cancer Institute.
2. *Costs of developing & modeling the delivery system:* These include the costs of developing GHC's multifaceted approach to tobacco cessation, developing the Tobacco Roadmap and clinical systems, and creating the Treatment Record Form and automated approaches to documentation. In addition, GHC modeled the systems for delivering it in a health care setting.

B. *Long-term fixed costs:*

1. Marketing, administration, management (including roadmap coordinator and CHP administration) and their associated costs.
2. Information systems and infrastructure

### C. Ongoing delivery costs

1. *Clinical Implementation costs* include time and costs of training, conducting chart audits, and providing and documenting the service.

2. *Costs of delivering Free & Clear*

a. *Variable costs* include specialist compensation, registration and screening staff compensation, supervisor compensation, training, print materials mailed to users (“quit kits”), mailing costs, storage costs, and charges to the toll-free number.

b. *Periodic, short-term, or annual “fixed costs”* include computer infrastructure and workstations, computer setups, and telephones.

The start-up costs for the entire program are treated by Scott as sunk costs, which she does not expect to recover. Tiffit believes that such costs should not figure into the cost of cessation to an employer or to a health plan. Over half of the costs of each unit delivered are variable costs, as Tiffit explained:

You might think that the fixed costs are being amortized over a greater volume through our sales to outside clients, but this is not the kind of business where you readily start to see economies of scale with volume. Once you have another tobacco cessation specialist trained and on duty, they can handle a certain caseload, but only so many cases *if you want to maintain quality*. It is a high variable cost business. Over half of the program cost for each unit delivered is for specialized labor in direct service delivery—the counselors, the registration people, and their direct supervisors.

Variable costs and, to a large extent, the periodic fixed costs of delivering the service (whether to GHC members or outside clients) are covered by commercial sales of Free & Clear and an appropriation from the Coop. “The Coop gives us, in effect, a capitated payment, and it is up to us to deliver these services to all the Group Health members who call to enroll,” according to Tiffit. Any net margins earned from the sale of Free & Clear outside of GHC are reinvested into service improvements that benefit all populations—GHC members, commercial clients, and state Quit Lines.

If start-up costs are excluded and delivery costs included in making the business case for tobacco cessation programs, it is less clear how to consider long-term fixed costs. While Free & Clear pays its own way as an ongoing service, its viability rests on the

foundation built by the startup process and by Group Health's infrastructure. As Tiffit acknowledged, "One of the reasons we can do this at all is that we are intertwined with Group Health, which has a lot of infrastructure in place." However, the budget for long-term costs is currently being questioned and is likely to face cuts.

Economics of Tobacco among Employers. Clients of Free & Clear have asked GHC for help in working through the economic and financial impact of cessation programs. Tiffit and her staff have developed a "cost and savings estimator," which is now included in the promotional and informational materials sent to prospective clients to help them frame their questions (Exhibit 7). To supplement employers' knowledge, the worksheet provides key pieces of data from published sources concerning the estimated medical costs of smoking as well as its impact on worker productivity. (The Exhibit shown here is meant to provide an example; other materials, which are not shown here, are needed to estimate actual savings and costs.)

The costs of smoking and the benefits of quitting look different from the perspective of employers than from the perspective of GHC. Employers bear significant costs of tobacco use in the forms of lost productivity and absenteeism as well as in higher health services utilization. By purchasing Free & Clear, employers take on some of the risk of bridging the time gap between investing in quitting and realizing the cost benefits of decreased utilization of services by ex-smokers. The longer tenure of employees (especially of large employers) relative to health plan members means that employers have a greater likelihood of reaping the downstream benefits of quitting (in the form of lower utilization). Free & Clear can be a step toward building partnerships between GHC and large employers.

While the worksheet may help employers think about the costs of tobacco, Tiffit emphasizes that it is simply a tool. Although she and her staff named the worksheet a "return on investment worksheet" in its early form, they have now determined that the "ROI" designation is misleading. They consider a traditional business ROI model to be inappropriate for evaluating tobacco cessation for several reasons, including the relatively long period of time over which the benefits may accrue. The "savings" that might come in the form of *avoided* future medical costs are both difficult to quantify and not bankable. Timing issues are critical and complex, and are not factored into the worksheet.

*Perspectives on Reframing the "Business Case."* In the view of many at GHC, the fundamental problem with the traditional, ROI-type business case is that it is simply the wrong way to think about decreasing tobacco use (or prevention in general). The lenses



*“Recent studies suggest that the benefits of cessation outweigh the costs and, in fact, offer a net gain over time”*



# The Economic Impact of Tobacco Use

The health consequences of tobacco use are undisputed: Smoking is linked to heart disease, many types of cancer, respiratory infections, stroke, emphysema, miscarriages and low birth weight.

But what is the economic impact of tobacco use? How do you measure the costs of tobacco use for your company or health plan? How do you estimate the benefits of offering tobacco cessation?

## The Wide-Scale Costs of Tobacco Use

A number of published studies paint a picture of the wide-scale cost of tobacco use:

- The direct medical costs of smoking in the U.S. are estimated to be \$50 billion per year. The Centers for Disease Control estimated that \$2.06 was spent on smoking-related medical care for every one of the 24 billion packs of cigarettes sold in 1993.<sup>1</sup>
- Employers lose an estimated \$50 billion yearly in productivity and lost earnings due to smoking-related diseases.<sup>2</sup> Smokers in a workforce also have increased absenteeism, higher life insurance premiums and higher disability costs.
- A 1991 study of Medicaid payments showed that tobacco use accounted for 41 percent of substance abuse-related hospital days—the same amount accounted for by illicit drug use.<sup>3</sup>

## The Financial Burden of Tobacco Use to Your Organization

As an employer or health plan you bear the cost burden of tobacco use among employees and members. Consider the following:

- Smokers have higher medical costs than non-smokers—an estimated \$1,041 more per year.<sup>4</sup>
- Turnover and absenteeism are higher for smokers than for non-smokers.
- Smokers have more accidents and injuries than non-smokers do.
- Because of smoking breaks, non-smokers are more productive on the job than are smokers.

## Tobacco Cessation is a Bargain Among Preventive Health Measures

There are few preventive health interventions that are more cost-effective than tobacco cessation. The cost per quality-adjusted life year saved (QALYS) of implementing the U.S. Public Health Service tobacco cessation Clinical Practice Guideline<sup>5</sup> ranges from \$1,108 to \$4,524. In contrast, the cost per QALYS of annual mammography for women ages 40 to 49 is \$61,744 and \$23,335 for hypertension screening for 40-year old men.<sup>6</sup>

## The Potential Savings from Tobacco Cessation

The potential savings from tobacco cessation are directly related to the costs of tobacco to your organization. Recent studies suggest that the benefits of cessation outweigh the costs and, in fact, offer a net gain over time. Researchers at the University of Michigan simulated the financial results of a workplace cessation program. The results suggested that by the third year, the savings to the company matched the total costs of the cessation program. By the fifth year, the financial benefits were almost twice the costs.<sup>7</sup>

*Continued . . .*

# Cost and Savings Estimator Worksheet

We cannot tell you what the exact costs and savings will be to your company or health plan if you invest in Free & Clear, but we can provide some guidance to help you come up with a good estimate. Use this worksheet and the attached guide to estimate the potential costs and savings of offering Free & Clear.

## Question 1: How many people will participate in Free & Clear?

*This calculation will help you to estimate the total number of participants in a year. Use this number as you work through the rest of the cost and savings estimator worksheet.*

a. Total eligible employees or members: \_\_\_\_\_

b. Tobacco-use prevalence: \_\_\_\_\_ %

c. Free & Clear participation rate: \_\_\_\_\_ %

### Estimated number of participants:

$(a \times b \times c) =$  \_\_\_\_\_ (Use this number in Questions 2 & 3.)

## Question 2: What will it cost your organization to offer the Free & Clear program?

*This calculation will give you an estimate of total cost in any given year.*

d. Free & Clear program cost per participant: \$ \_\_\_\_\_

e. NRT or Zyban® cost per participant: \$ \_\_\_\_\_

f. NRT or Zyban use: \_\_\_\_\_ %

### Estimated cost:

$(\text{Estimated number of participants} \times d) +$   
 $(\text{Estimated number of participants} \times e \times f) =$  \$ \_\_\_\_\_

## Question 3: How much might you save when tobacco users quit?

*Determine how many participants are likely to quit by applying an annual quit rate. Then list your best estimate of savings for those who quit (write N/A for savings items that do not apply).*

g. Estimated annual quit rate: \_\_\_\_\_ %

h. Estimated medical cost savings per year per tobacco user: \$ \_\_\_\_\_

i. Estimated value of productivity gain per year per tobacco user: \$ \_\_\_\_\_

j. Estimated value of reduced absenteeism per year per tobacco user: \$ \_\_\_\_\_

### Estimated savings:

$\text{Estimated number of participants} \times g \times (h + i + j) =$  \$ \_\_\_\_\_





**“Smokers can incur an average of \$1,041 more in annual medical costs than non-smokers.”**



# Cost and Savings Estimator Guide

## Question 1: How many people will participate in Free & Clear?

- a. *Total eligible employees or members:* Estimate the total number of employees or members who will be entitled to the Free & Clear benefit.
- b. *Tobacco-use prevalence:* Estimate the percentage of those eligible employees or members who are tobacco users.
  - If you do not have exact tobacco-use information for your organization, the tobacco-use prevalence for your state could be applied to your workforce or membership. This information is available on a state-by-state basis from the Centers for Disease Control ([www.cdc.gov/tobacco/stat-nat-data.htm](http://www.cdc.gov/tobacco/stat-nat-data.htm)). This information also offers tobacco-use rates by gender, age and education.
  - Study your workforce or membership. Are there large numbers of blue-collar workers? Published studies indicate that tobacco use is higher among blue-collar populations than among white-collar workers. Health plans with large Medicaid populations may also have a higher than average tobacco use prevalence.
- c. *Free & Clear participation rate:* Estimate the percentage of tobacco users in your organization who are likely to take advantage of the Free & Clear benefit.
  - Organizations that promote Free & Clear normally have annual participation rates ranging from two to five percent of tobacco users. If you also offer full coverage for the Free & Clear benefit, offer nicotine replacement therapy (NRT) or Zyban and require no co-payment, you may have a five percent or higher participation rate.

## Question 2: What will it cost your organization to offer the Free & Clear program?

- d. *Free & Clear program cost per participant:* Take this figure from the enclosed *Program Description* sheet.
- e. *NRT or Zyban cost per participant:* If you plan to offer both NRT and Zyban,

we suggest you calculate an average cost per participant that blends the costs of both types of products. If you plan to use our direct mail order (DMO) pharmacy for NRT, consult the enclosed DMO price list to estimate the cost per participant.

- f. *NRT or Zyban use:* Our experience indicates that approximately 65 percent of all Free & Clear participants will use NRT or Zyban.

## Question 3: How much might you save when tobacco users quit?

- g. *Estimated annual quit rate:* Free & Clear's average annual quit rates range from 25 - 30 percent, based on 55,000 participants enrolled between 1993 and 1999 (see insert entitled *What is a Quit Rate?*). Your organization's estimated quit rate will depend on whether or not you offer NRT or Zyban, the program's coverage and the demographics of your workforce or plan members.
- h. *Estimated medical cost savings per year per tobacco user:* Smokers incur an average of \$1,041 more in annual medical costs than do non-smokers.<sup>8</sup> The potential medical costs of smoking in pregnancy are especially high. In an HMO of 100,000 members, the cost savings from a program to help pregnant smokers quit resulted in a health plan savings of \$3.17 for every dollar spent on the program.<sup>9</sup>
- i. *Estimated value of productivity gain per year per tobacco user:* Smokers lose the equivalent of one percent of their annual salary due to smoking breaks.<sup>10</sup>
- j. *Estimated value of reduced absenteeism per year per tobacco user:* Smokers have 1.8 more days of absence from work than non-smokers.<sup>11</sup>

**Continued . . .**

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<sup>1</sup> *Business & Health*, Vol. 15, #8, Supplement A, Medical Economics, Montvale, NJ. Pages 4, 6

<sup>2</sup> *Ibid*, page 6

<sup>3</sup> *Ibid*, page 5

<sup>4</sup> Fishman, Paul, et.al. Center for Health Studies, Group Health Cooperative of Puget Sound, 2000

<sup>5</sup> US Public Health Service, "Treating Tobacco Use and Dependence," June 2000.

<sup>6</sup> From Cromwell, et.al., 1997, cited in U.S Department of Health and Human Services, *Reducing Tobacco Use: Report of the Surgeon General*. Centers for Disease Control, Atlanta, 2000, pg. 133.

<sup>7</sup> Warner, K., et.al. cited in *Business & Health*, Vol. 15, #8, Supplement A, Medical Economics, Montvale, NJ. Page 9.

<sup>8</sup> Fishman, Paul, Center for Health Studies, Group Health Cooperative of Puget Sound, 2000.

<sup>9</sup> "Reducing Tobacco Use: Health Plans Take an Active Role," reported in *Healthplan*, January/February 2001, page 53.

<sup>10</sup> Warner, K., et.al., "Health and Economic Implications of a Worksite Smoking-Cessation Program: A Simulation Analysis," *Journal of Occupational and Environmental Medicine*, Volume 38, Number 10, October 1996. This estimate assumes that each smoker loses five minutes per day in productivity.

<sup>11</sup> Combined data from "Smoking and the Bottom Line in the Workplace," Conference Board of Canada, 1997; Van Tuinen, M., Land, G. "Smoking and excess sick leave in a department of health," *Journal of Occupational Medicine*, 1986; and Muto, T., Sakurai, H., "Relationship of smoking to absenteeism due to illness and injury in male workers," in *Nippon Koshuy Esisei Zasshi*, 1992.

through which such programs are assessed needs to change. Tim McAfee, for example, believes that,

We need to encourage health care systems to think about tobacco dependence as a chronic disease. This was initially one of the clarion calls in our work. Although population-level work with chronic disease is, like prevention, a step-child in health care, new technologies for clinical treatment of chronic diseases don't get put through the ringer to the same degree that even well-established, inexpensive treatments for tobacco use usually are.

How health systems approach integration of evidence-based tobacco treatment into care is a bellwether of how successful our industry is in actually addressing the fundamental requirements of our customers. For example, in a review of clinical preventive services, tobacco cessation counseling to adults was the highest-ranked preventive service, with the lowest delivery rate by clinicians. If you aren't working on this, it is probably because you are operating with an "ROI" mentality that may seem to work in the short run, but will result in the early demise of existing health care systems if continued. If we can't figure out how to do this for tobacco, then new institutions and ways of structuring health care delivery will come into being that can. The American auto industry is an example of what happens when large industries ignore the desires of their customers (such as safety and reliability) due to excessive focus on ROI as something that is divorced from customer product requirements.

Cheryl Scott believes that preventive and chronic care programs in general, and tobacco cessation programs in particular, have built powerful cases that she terms "value proposition cases," or "consumer value differentiation cases." Such cases may or may not lend themselves to economic or financial analysis:

In a world where there are employee shortages, tobacco cessation and chronic care are incredible tools for persuading people to work for Group Health rather than somewhere else. They give employees pride about what they are doing. Programs like these have a huge intangible benefit in the kind of people you can recruit, the kind of organization you have, the spirit of the place, and the kind of consumers who choose to join you. These programs are fundamentally important and should never be discounted because they become the stories of the organization, building its culture, and giving the organization meaning.

Earlier in this case, Sue Curry—the former GHC researcher now at the University of Illinois in Chicago—was quoted as saying that, “part of building a business case for smoking cessation is changing the mindset and the culture around what the elements of that business case should be.” She expanded on that view by asking a series of questions that may serve as a first step in thinking about how to reframe the issue:

1. Is decreasing tobacco prevalence consistent with the business mission? Is disease prevention/chronic disease management part of the business mission of the health care organization?
2. What is the evidence for the contribution of the target condition (in this case, tobacco use) to health problems?
3. What is the evidence for contribution of the target condition to excess health care costs and utilization? Do smokers cost more than nonsmokers or ex-smokers?
4. What is the availability of treatments that improve the target condition? That is, does treatment for smoking cessation lead to more quitting than would occur without treatment?
5. What is the cost-effectiveness—not the cost-benefit—of treatment? Cost-effectiveness means getting value for something that costs money; it is not a cost offset or a cost savings. The key metrics here are: What is the cost per quit? What is the cost per quality-adjusted life year?<sup>6</sup>
6. Is the cost-effectiveness of tobacco cessation consistent with the cost-effectiveness of treatments for other chronic medical conditions? Is tobacco cessation held to the same standard or to a different standard than treatment for other chronic conditions?

In terms of the first question, it is clear that disease prevention and chronic disease management have clearly been part of Group Health’s essential mission since its founding. The second and fourth questions are well documented in the literature. Question 6 is important because there are many indications that the playing field is not level when it comes to coverage or treatment of tobacco use and dependence. The U.S. Public Health Service Guideline, GHC, and others believe that tobacco dependence shares many of the attributes of serious chronic illness in its own right, and that it is not just a risk factor—but

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<sup>6</sup> A measurement index derived from a modification of standard life-table procedures and designed to take account of the quality as well as the duration of survival. This index can be used in assessing the outcome of health care procedures or services.

the cost analyses used for tobacco has been more rigorous and demanding than that used for most other chronic conditions. Questions 3 and 5 are the substantive core around which any reframed business case would need to build.

*Utilization and Avoided Costs.* Because it has an integrated financial delivery system, the Coop is an ideal place to compare over time the health care costs of members who have never smoked, former smokers, and current smokers. As a closed system, GHC can capture virtually all of the insured medical services someone uses. “Otherwise,” health economist Paul Fishman pointed out, “it would be like squeezing a balloon; what appears as cost savings over here is costing money over there. You have to be able to find out if the reduction of one component is actually counteracted by an increase in another.” Fishman, who has worked closely with Curry, Wagner, and other researchers in GHC’s Center for Health Studies for nearly a decade, has been exploring such questions as: What does it cost to provide health services to smokers as compared with ex-smokers? What are the financial consequences to the health plan and to purchasers for having smokers and former smokers in the population for whom they are insuring or buying health care?

*Avoided Costs vs. Cost Savings.* Although studies have rarely tracked health costs further than five to 10 years after smoking cessation, nor have they been powerful enough to examine sub-populations (e.g., by age group and/or duration of smoking), two points are strongly suggested by existing research. First, the health care costs of former smokers will not return to the level of those who have never smoked. Epidemiologists have shown that although quitting affects morbidity and mortality, it is unrealistic to think no significant damage has been done. Second, the rate of growth of future costs among former smokers will be less than those who continue to smoke. The appropriate comparison, therefore, is between former smokers and those who continue to smoke. Fishman elaborated,

We know that former smokers are still going to cost more than never smokers, so you are not going to have a real net, long-term savings when you get them to quit. But they will cost less than they would have cost. You have to realize that this is not a real net savings to you, but it is a difference in what you would have expected to spend if they hadn’t quit. But they are still going to cost you more than never-smokers.

Fishman explained the logic for the shift in focus from cost savings to avoided costs. “I believe cost savings is an inappropriate threshold by which to judge prevention because it is an investment, not a cost reduction.” But neither are traditional ROI calculations appropriate. “If you have a dollar to spend in a health care setting, you don’t

think, 'I should get a 50 percent ROI.' Instead, you think, "If I invest that dollar, will I achieve the overall objectives of my health plan?" In the case of tobacco cessation, "you will spend a dollar and you won't get that dollar back, and you will not have cost savings—there will be no cost offset somewhere else in the system, nor will you spend only 50 cents next year. But instead of having to pay two dollars down the road, you pay only \$1.50."

Post-Quit Intervals. The interval between quitting smoking and decreasing utilization appears to be shorter than was previously thought. Recent studies of the general population have shown that the potential for cost reduction through quitting is happening within three years. The studies need to be replicated with specific populations such as those with chronic conditions and in different age brackets. Thus, the post-quit cost equation may be better than earlier studies had indicated.

Studies headed by Curry, Wagner, and Fishman have revealed a significant wrinkle in this post-quit interval. Former smokers cost significantly more in the year they quit, but this spike in costs dissipates within three to four years. This overall finding appears to camouflage at least two groups of quitters, however. When a cost utilization analysis is linked to *how* people quit, the findings are quite intriguing. When people quit by using GHC's Free & Clear program, costs spiked briefly, but subsided almost immediately. Those who quit without using the program also showed a cost spike, but they remained more expensive for several years.

Fishman has hypothesized that the program users decided to quit proactively, while those who quit without the program and remained more expensive may have been forced to quit due to some health event such as a heart attack. When he studied the services that smokers had drawn upon in the year or two prior to quitting, the diagnoses they received, and the medications they were taking, preliminary analysis suggests that those who quit without using the program were already starting to get more expensive, and could be expected to have become even more expensive if they had not quit. If borne out by further studies, this finding argues for quitting sooner rather than later, and thus, in Fishman's view, for aggressive promotion of the Free & Clear program.

The business case here is that you actually want to get smokers into the program so that they quit *before* their costs start to rise. If they don't quit sooner, they will cost us even more money later on. The marketing people can then make the case that if we market the program aggressively and can get people to quit sooner, the purchaser's pmpm's [per member per month] will go up 5 percent rather than 15 percent. I think we can make that case.

In Fishman’s view, it is “extremely important” for health care insurers and purchasers “to realize that you *can* make people less expensive than they would have been.” Nonetheless, getting across any form of the avoided-costs message is challenging:

Convincing the purchasers that there are real savings relative to what they would have been spending is a tough sell. In industry, the concept of avoided costs is well understood, but in health care, it is not. People tend to focus more on health outcomes, and they expect them to result in absolute savings. We cannot generate false expectations with purchasers; we must communicate that they will be spending money, but also that they need to be asking a different question: “What are we getting for what we are spending?”

*Principles of Cost Effectiveness.* Fishman’s question provides a segue from Curry’s third point, about decreased utilization and avoided costs of smoking, to her fifth point, about the cost effectiveness of smoking cessation programs and how to measure it, for example through cost per quit and quality-adjusted life years. Evaluating investments in smoking cessation activities entails a paradigm shift—from cost savings to avoided costs—as well as an assessment of costs and investments *within a health care context* as opposed to a purely business context. Failure to consider the latter is the fundamental flaw in the argument that long-living nonsmokers actually cost society more than the smokers who “conveniently” die earlier. Fishman had little patience with this kind of thinking:

You get pathological results all the time when you run the dollars. Colleagues are always concerned about cost analyses because very often the result is: let sick people die. An aggressive smoking cessation policy is not going to save the health plan money. *That’s also not the question.* The question is: given the alternative ways you can invest health care resources, where would you expect the greatest return *in a health care context* to be?

What Are We Getting? The first dimension of cost-effectiveness in a health care context is that investors must be prepared to spend money in order to achieve something of value. They have to decide, “Is the value of this outcome sufficient that I am willing to pay for it? How much am I willing to pay—which is also to say, just how valuable is it to me?” If investors have decided that an outcome is indeed worth investing in, they can and should examine alternative approaches to find which approach offers the best results for the least money. Fishman illustrated:

At Group Health, we have made a commitment to give women access to mammography. So the outcome—getting women screened—is already

agreed upon. We conducted a study to find out how to get as many women as possible screened for the lowest cost. If you have decided that tobacco cessation is a goal, then you can study the “cost per quit” of different ways of getting people to quit and choose the most cost-effective approach.

“Cost per quit” is the most salient metric of cost effectiveness when an investor has already decided that they want to achieve a valued outcome. If, however, they have not yet decided whether an outcome such as tobacco cessation is a program in which they want to put their dollars, another kind of cost-effectiveness study can be undertaken.

How *Should We Invest Our Dollars?* Decreasing the prevalence of tobacco use competes with other ways of investing health care resources. A second dimension of cost-effectiveness compares investments in one kind of preventive activity with investments in another. If the investor has not yet decided whether they want to invest in smoking cessation, then one of the factors they may want to use is a comparative metric such as quality-adjusted life years saved to compare the impact of different interventions on life expectancy and quality of life. If a person stops smoking, does he or she live longer? For each of those years, how should each year be adjusted for quality of life?

Through complex scales, indices, and weighting related to the population, health event, age groups, and so on, a calculation can be made: for each additional QALY, how much will a program have to invest? For each additional QALY saved, it will cost the program a certain amount of money. That amount provides the investor with a unit, which can then be compared with the cost per QALY of other programs serving other populations. According to the CMS guideline analysis, smoking cessation programs cost only \$1,195 per QALY. The cost per QALY of smoking cessation programs following U.S. Public Health Service Guidelines is said to range from \$1,100 to \$4,500, which is extremely low compared with most other preventive programs (Exhibit 7). McAfee spoke passionately about his view of the implications.

We are in the business of helping people preserve and improve their health. There is demonstrably no cheaper, more effective way to do this than helping people quit smoking (with the possible exception of childhood immunizations). If you don't step up to the plate on this, then you aren't really in the business of helping people preserve, restore, and improve their health; you are just in the business of trying to make money by lowering costs. It is this perception of “managed care” that has seen a respectable industry move in popularity to one-percentage point above the tobacco industry.



New Accounting Methods. Conventional accounting systems do not capture the utilization difference between ex-smokers and smokers who represent costs avoided through quitting. Hugh Straley is looking beyond traditional accounting schemes to methods that can recognize the avoided costs that are so central to Fishman's work. Straley has become keenly interested in the potential of an accounting system called Archimedes to translate the benefits of prevention programs into QALYS and avoided costs.

Archimedes is being developed by Kaiser-Permanente (with whom Group Health shares intellectual assets) as an attempt to quantify things that are not ordinarily quantified by finance departments. Straley described the concept as "an accounting system that can gather together all the elements of care and costs for care for defined conditions, into which you can plug the impact of an intervention on those costs." Archimedes may also indicate if some prevention programs (e.g., tobacco cessation) generate a relatively greater "ROI" than others. This ROI would not be a traditional ROI, but would include "lives that will be saved, hospitalization that will be avoided, diseases that will be avoided—from heart disease to lung cancer—so that if more people in the system have quit, the overall cost to all of us in the system is lower."

## **Conclusions**

The project of which this case study is one part was intended to explore the business case for quality in health care settings. Quality pays off in industry, but does it also pay off in health care? If not, what are the barriers? How do innovative health care systems manage the contradictions? This case study focuses on efforts at Group Health Cooperative to decrease the prevalence of tobacco use among its members. The study concludes that a traditional business case approach is an inappropriate approach to take to the assessment of tobacco cessation. It doesn't work, and it's the wrong way to think about the issue.

*Traditional ROI Doesn't Work.* Tobacco use is a comorbidity factor for many chronic diseases and health events, and in the view of some, a chronic disease in its own right. In a fragmented care/payment system, those who invest in tobacco use prevention/treatment/cessation are not rewarded for delaying the onset or reducing the occurrence of these health conditions. Although the interval between quitting smoking and decreased utilization appears to be shorter than previously thought (about three years), the decrease in utilization rates/costs may still not accrue to the investor.

It is difficult to track the extent to which an investing organization captures the beneficial results of its investment in lowering tobacco prevalence. Group Health's investments in decreasing tobacco use, modeling a service delivery system, and institutionalizing tobacco cessation activities in everyday clinical practice are essentially

research and development or investment costs. These costs may never be recouped, or at least their beneficial results cannot be accounted for on a one-to-one basis and in the tidy categories and short timeframes that business investors look for.

The situation looks different through the eyes of employers because, in addition to the higher utilization rates of smokers, they bear the burden of absenteeism and productivity losses associated with smoking. Still, the savings to employers that may accrue from avoided medical costs are difficult to quantify, and cannot be taken to the bank. Timing issues are critical, just as they are for a health care system that engages in tobacco cessation activities.

*Reframing the Issue.* Investments in prevention must be assessed within a health care context, rather than in a strictly financial context. The evaluation of investments requires a paradigm shift from cost savings to avoided costs, and an understanding of cost-effectiveness as the assessment of different means or methods for achieving valued health care objectives.

- *Avoided Costs.* Investments in decreasing tobacco prevalence result in costs avoided rather than costs saved; they cannot be taken to the bank nor will they appear on a conventional balance sheet.
  - Former smokers will probably always cost more than those who never smoke, but less than current smokers. The appropriate comparison to make is between ex-smokers and current smokers.
  - Although tobacco cessation returns are not immediate, they may well occur sooner than has been thought, possibly as early as three years.
  - Quitting sooner rather than later and proactively rather than of necessity is better for the individual, the health plan, and the employer.
  - Primary prevention is in the interest of health plans and providers so that people who have never smoked become a growing proportion of the population.
- *Cost Effectiveness.* In a health care context, “cost effectiveness” refers not to cost savings, but to how much value one is getting for one’s investment. Rather than expecting a return, one should ask, “How should I invest my health care dollars?”

- Those who have already committed to decreasing tobacco prevalence may wish to choose among alternative approaches by assessing their “cost per quit” metrics.
- Those who are still deciding among preventive programs may be aided by another metric, their cost per QALY. This should not, of course, be the only criterion on which a program is chosen.

### **Recommendations**

1. Providers and employers need to become partners in prevention. External sales of Free & Clear can become a step in that direction.
2. Dramatic changes in the national health care system, its payment methods, and its fragmented approach are needed in order to create incentives for prevention and to connect prevention with its beneficial outcomes.
3. In the meantime, stronger pressure from large purchasers and regulatory agencies may be required to overcome health system inertia. McAfee spoke to the first and third points:

We need to encourage customer demand for tobacco treatment programs. Health care systems ought to be delivering a product that is consistent with what the people who purchase that product want. Not much pressure can be expected from the individual end-user, but larger employers as well as government purchasers in Medicaid, Medicare, and state-level, low-income plans could revolutionize the level of commitment to provision of service in a short time simply by demanding that these services be provided.

## RELATED PUBLICATIONS

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**#620** *Smallpox Vaccinations: The Risks and the Benefits* (April 2003, Web publication). Rena Conti. Prepared for the 2003 Commonwealth Fund/John F. Kennedy School of Government Bipartisan Congressional Health Policy Conference, this issue brief argues that offering voluntary smallpox vaccinations to the public presents benefits that must be weighed against associated medical, logistic, and economic risks. Policymakers must navigate complex tensions between scientific and political uncertainty, and between the government's role in protecting its citizenry while guaranteeing individuals' rights to self-determination.

**#619** *The Nursing Workforce Shortage: Causes, Consequences, Proposed Solutions* (April 2003, Web publication). Patricia Keenan. Prepared for the 2003 Commonwealth Fund/John F. Kennedy School of Government Bipartisan Congressional Health Policy Conference, this issue brief argues that projected long-term nursing shortages will create still greater cost and quality challenges, and that without increased payments from public or private purchasers, health care institutions will most likely have to make tradeoffs between investing in staffing and pursuing other quality-improvement efforts.

**#615** *Balancing Safety, Effectiveness, and Public Desire: The FDA and Cancer* (April 2003, Web publication). Rena Conti. Prepared for the 2003 Commonwealth Fund/John F. Kennedy School of Government Bipartisan Congressional Health Policy Conference, this issue brief discusses the challenges the FDA faces in balancing the need to ensure that cancer drugs are safe and effective against pressure to make therapies available quickly.

**#613** *The Business Case for Pharmaceutical Management: A Case Study* (April 2003, Web publication). Helen Smits, Barbara Zarowitz, Vinod K. Sahney, and Lucy Savitz. This case study explores the business case for two innovations in pharmacy management at the Henry Ford Health System, based in Detroit, Michigan. In an attempt to shorten hospitalization for deep vein thrombosis, Henry Ford experimented with the use of an expensive new drug, low molecular weight heparin. The study also examines a lipid clinic that was created at Henry Ford to maximize the benefit of powerful new cholesterol-lowering drugs.

**#612** *The Business Case for a Corporate Wellness Program: A Case Study* (April 2003, Web publication). Elizabeth A. McGlynn, Timothy McDonald, Laura Champagne, Bruce Bradley, and Wesley Walker. In 1996, General Motors and the United Auto Workers Union launched a comprehensive preventive health program for employees, LifeSteps, which involves education, health appraisals, counseling, and other interventions. This case study looks at the business case for this type of corporate wellness program.

**#611** *The Business Case for Drop-In Group Medical Appointments: A Case Study* (April 2003, Web publication). Jon B. Christianson and Louise H. Warrick, Institute for Healthcare Improvement. Drop-in Group Medical Appointments (DIGMAs) are visits with a physician that take place in a supportive group setting, and that can increase access to physicians, improve patient satisfaction,

and increase physician productivity. This case study examines the business case for DIGMAs as they were implemented in the Luther Midelfort Mayo System, based in Eau Claire, Wisconsin.

**#610** *The Business Case for Diabetes Disease Management at Two Managed Care Organizations: A Case Study* (April 2003, Web publication). Nancy Dean Beaulieu, David M. Cutler, Katherine E. Ho, Dennis Horrigan, and George Isham. This case study looks at the business case for a diabetes disease management program at HealthPartners, an HMO in Minneapolis, Minnesota, and Independent Health Association, an HMO in Buffalo, New York. Both disease management programs emphasize patient and physician education, adherence to clinical guidelines, and nurse case management.

**#609** *The Business Case for Clinical Pathways and Outcomes Management: A Case Study* (April 2003, Web publication). Artemis March, The Quantum Lens. This case study describes the implementation of an outcomes center and data-based decision-making at Children's Hospital and Health Center of San Diego during the mid-1990s. It examines the business case for the core initiative: the development of a computerized physician order entry system.

*Hospital Disclosure Practices: Results of a National Survey* (March/April 2003). Rae M. Lamb, David M. Studdert, Richard M. J. Bohmer, Donald M. Berwick, and Troyen A. Brennan. *Health Affairs*, vol. 22, no. 2. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, [www.healthaffairs.org](http://www.healthaffairs.org).

*The Business Case for Quality: Case Studies and An Analysis* (March/April 2003). Sheila Leatherman, Donald Berwick, Debra Iles, Lawrence S. Lewin, Frank Davidoff, Thomas Nolan, and Maureen Bisognano. *Health Affairs*, vol. 22, no. 2. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, [www.healthaffairs.org](http://www.healthaffairs.org).

**#606** *Health Plan Quality Data: The Importance of Public Reporting* (January 2003). Joseph W. Thompson, Sathiska D. Pinidiya, Kevin W. Ryan, Elizabeth D. McKinley, Shannon Alston, James E. Bost, Jessica Briefer French, and Pippa Simpson. *American Journal of Preventive Medicine*, vol. 24, no. 1 (*In the Literature* summary). The authors present evidence that health plan performance is highly associated with whether a plan publicly releases its performance information. The finding makes a compelling argument for the support of policies that mandate reporting of quality-of-care measures.

**#578** *Exploring Consumer Perspectives on Good Physician Care: A Summary of Focus Group Results* (January 2003, Web publication). Donna Pillittere, Mary Beth Bigley, Judith Hibbard, and Greg Pawlson. Part of a multifaceted Commonwealth Fund-supported study, "Developing Patient-Centered Measures of Physician Quality," the authors report that consumers can understand and will value information about effectiveness and patient safety (as well as patient-centeredness) if they are presented with information in a consumer-friendly framework.

**#563** *Escape Fire: Lessons for the Future of Health Care* (November 2002). Donald M. Berwick. In this monograph, Dr. Berwick outlines the problems with the health care system—medical errors, confusing and inconsistent information, and a lack of personal attention and continuity in care—and then sketches an ambitious program for reform.

*Achieving and Sustaining Improved Quality: Lessons from New York State and Cardiac Surgery* (July/August 2002). Mark R. Chassin. *Health Affairs*, vol. 21, no. 4. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-

7401 ext. 200, Fax: 301-654-2845. Available online at <http://www.healthaffairs.org/readeragent.php?ID=/usr/local/apache/sites/healthaffairs.org/htdocs/Library/v21n4/s8.pdf>.

*Improving Quality Through Public Disclosure of Performance Information* (July/August 2002). David Lansky. *Health Affairs*, vol. 21, no. 4. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845. Available online at <http://www.healthaffairs.org/readeragent.php?ID=/usr/local/apache/sites/healthaffairs.org/htdocs/Library/v21n4/s9.pdf>.

*Factors Affecting Response Rates to the Consumer Assessment of Health Plans Study Survey* (June 2002). Alan M. Zaslavsky, Lawrence B. Zaboriski, and Paul D. Cleary. *Medical Care*, vol. 40, no. 6. Copies are available from Paul D. Cleary, Department of Health Care Policy, Harvard Medical School, 180 Longwood Avenue, Boston, Massachusetts 02115, E-mail: [cleary@hcp.med.harvard.edu](mailto:cleary@hcp.med.harvard.edu).

**#539** *Improving Health Care Quality: Can Federal Efforts Lead the Way?* (April 2002). Juliette Cubanski and Janet Kline. This issue brief, prepared for the 2002 Commonwealth Fund/Harvard University Bipartisan Congressional Health Policy Conference, discusses the ways in which various federal agencies can work to improve health care quality for all Americans. Available online only at [www.cmwf.org](http://www.cmwf.org).

**#535** *Assessing the Threat of Bioterrorism: Are We Ready?* (April 2002). Patricia Seliger Keenan and Janet Kline. This issue brief, prepared for the 2002 Commonwealth Fund/Harvard University Bipartisan Congressional Health Policy Conference, examines federal preparedness, state and local infrastructure, congressional actions to improve preparedness, and regulatory and legal policies regarding the threat of bioterrorism in the United States. Available online only at [www.cmwf.org](http://www.cmwf.org).

**#534** *Room for Improvement: Patients Report on the Quality of Their Health Care* (April 2002). Karen Davis, Stephen C. Schoenbaum, Karen Scott Collins, Katie Tenney, Dora L. Hughes, and Anne-Marie J. Audet. Based on the Commonwealth Fund 2001 Health Care Quality Survey, this report finds that many Americans fail to get preventive health services at recommended intervals or receive substandard care for chronic conditions, which can translate into needless suffering, reduced quality of life, and higher long-term health care costs.

**#520** *Quality of Health Care in the United States: A Chartbook* (April 2002). Sheila Leatherman and Douglas McCarthy. This first-of-its-kind portrait of the state of health care quality in the United States documents serious gaps in quality on many crucial dimensions of care: lack of preventive care, medical mistakes, substandard care for chronic conditions, and health care disparities. The chartbook is based on more than 150 published studies and reports about quality of care.

*A 58-Year-Old Woman Dissatisfied with Her Care, Two Years Later* (March 27, 2002). Anne-Marie Audet and Erin Hartman. *Journal of the American Medical Association*, vol. 287, no. 12. Copies are available from Anne-Marie Audet, M.D., The Commonwealth Fund, 1 East 75th Street, New York, NY 10021-2692, E-mail: [ama@cmwf.org](mailto:ama@cmwf.org).

*Delivering Quality Care: Adolescents' Discussion of Health Risks with Their Providers* (March 2002). Jonathan D. Klein and Karen M. Wilson. *Journal of Adolescent Health*, vol. 30, no. 3. Copies are available from Jonathan D. Klein, Strong Children's Research Center, Division of Adolescent Medicine, Department of Pediatrics, University of Rochester School of Medicine and Dentistry, 601 Elmwood Avenue, RM 4-6234, Rochester, NY, Tel: 585-275-7660, E-mail: [jonathan\\_klein@urmc.rochester.edu](mailto:jonathan_klein@urmc.rochester.edu).

**#503** *Accessing Physician Information on the Internet* (January 2002). Elliot M. Stone, Jerilyn W. Heinold, Lydia M. Ewing, and Stephen C. Schoenbaum. In this field report, the authors analyzed

40 websites that offer information about physicians. Finding many instances where websites had incomplete, missing, and possibly inaccurate or outdated data, the authors conclude that health care accrediting organizations, health plans, hospitals, and local and national industry organizations and associations should make efforts to improve the information on the Internet, saying that it is a potential valuable tool for consumers.

**#528** *The APHSA Medicaid HEDIS Database Project* (December 2001). Lee Partridge, American Public Human Services Association. This study (available on the Fund's website only) assesses how well managed care plans serve Medicaid beneficiaries, and finds that while these plans often provide good care to young children, their quality scores on most other measures lag behind plans serving the commercially insured.

*For-Profit and Not-for-Profit Health Plans Participating in Medicaid* (May/June 2001). Bruce E. Landon and Arnold M. Epstein. *Health Affairs*, vol. 20, no. 3. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, [www.healthaffairs.org](http://www.healthaffairs.org).

*Improving Quality, Minimizing Error: Making It Happen* (May/June 2001). Elise C. Becher and Mark R. Chassin. *Health Affairs*, vol. 20, no. 3. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, [www.healthaffairs.org](http://www.healthaffairs.org).

**#456** *A Statistical Analysis of the Impact of Nonprofit Hospital Conversions on Hospitals and Communities, 1985–1996* (May 2001). Jack Hadley, Bradford H. Gray, and Sara R. Collins. In this study, the authors analyze the effects of private, nonprofit hospital conversions that occurred between 1985 and 1993 by comparing converting hospitals to a control group of statistically similar private nonprofit hospitals that were estimated to have a high probability of conversion, but did not convert over the observation period. The report is available online only at [www.cmwf.org](http://www.cmwf.org).

**#455** *The For-Profit Conversion of Nonprofit Hospitals in the U.S. Health Care System: Eight Case Studies* (May 2001). Sara R. Collins, Bradford H. Gray, and Jack Hadley. This report examines the 87 for-profit conversions of nonprofit hospitals in the years 1985–1994, more than one-third of which took place in three states, and nearly half of which were in the Southeast. The report is available online only at [www.cmwf.org](http://www.cmwf.org).

*Measuring Patients' Expectations and Requests* (May 1, 2001). Richard L. Kravitz. *Annals of Internal Medicine*, vol. 134, no. 9, part 2. Copies are available from Richard L. Kravitz, Center for Health Services Research in Primary Care, University of California, Davis, 4150 V Street, PSSB Suite 2500, Sacramento, CA 95817, E-mail: [rlkravitz@ucdavis.edu](mailto:rlkravitz@ucdavis.edu).

*Current Issues in Mental Health Policy* (Spring 2001). Colleen Barry. *Harvard Health Policy Review*, vol. 2, no. 1. Adapted from an issue brief prepared for the John F. Kennedy School of Government/Commonwealth Fund Bipartisan Congressional Health Policy Conference in January 2001. Available online at <http://hcs.harvard.edu/~epihc/currentissue/spring2001/barry.html>.

*Health Plan Characteristics and Consumers' Assessments of Quality* (March/April 2001). Bruce E. Landon et al. *Health Affairs*, vol. 20, no. 2. Copies are available from *Health Affairs*, 7500 Old Georgetown Road, Suite 600, Bethesda, MD 20814-6133, Tel: 301-656-7401 ext. 200, Fax: 301-654-2845, [www.healthaffairs.org](http://www.healthaffairs.org).

*Patient Safety and Medical Errors: A Road Map for State Action* (March 2001). Jill Rosenthal and Trish Riley. Copies are available from the National Academy for State Health Policy, 50 Monument

Square, Suite 502, Portland, ME 04101, Tel: 207-874-6524, Fax: 207-874-6527. Available online at [www.nashp.org/GNL37.pdf](http://www.nashp.org/GNL37.pdf).

**#446** *The Quality of American Health Care: Can We Do Better?* (January 2001). Karen Davis. In this essay—a reprint of the president’s message from the Fund’s *2000 Annual Report*—the author looks at health care quality: how to define it, how to measure it, and how to improve it.

*Envisioning the National Health Care Quality Report* (2001). Committee on the National Quality Report on Health Care Delivery, Institute of Medicine. Copies are available from the National Academy Press, 2101 Constitution Avenue, NW, Box 285, Washington, DC 20055, Tel: 800-624-6242, E-mail: [www.nap.edu](http://www.nap.edu).