

# The Internet And Managed Care: A New Wave Of Innovation

Internet tools promise to restructure health insurance.

*by Jeff Goldsmith*

**ABSTRACT:** Managed care firms have been under siege in the political system and the marketplace for the past few years. The rise of the Internet has brought into being powerful new electronic tools for automating administrative and financial processes in health insurance. These tools may enable new firms or employers to create custom-designed networks connecting their workers and providers, bypassing health plans altogether. Alternatively, health plans may use these tools to create a new consumer-focused business model. While some disintermediation of managed care plans may occur, the barriers to adoption of Internet tools by established plans are quite low. Network computing may provide important leverage for health plans not only to retain their franchises but also to improve their profitability and customer service.

**NO SEGMENT OF THE HEALTH CARE SYSTEM** is in greater ferment than the managed care market. Roiled by political cross-currents from the managed care backlash, plans face rising medical costs and rapidly stiffening economic resistance from doctors, hospitals, and drug companies. At the very same time, however, technological breakthroughs driven by the Internet promise to fundamentally restructure the health insurance business.

Major health insurance functions—network development and management, enrollment and eligibility verification, claims submission and payment, and medical and subscriber management—appear amenable to outsourcing through network computing applications. Some industry analysts believe that start-up firms that offer these Internet capabilities could enable employers to bypass health plans altogether in managing their health benefits (a process known as disintermediation).

If employers use the same approach to managing health benefits as they are using for pension benefits, more of them may remove themselves from the loop except as funders and provide their employees with Internet tools to manage their own health benefits. If employers adopt defined-contribution health benefits, consumers could either shop directly for health coverage on the Internet, or bypass the plans and contract directly for care through eBay-like auction sites that connect consumers and providers.

The Internet is producing a flood of innovative approaches to automating many health insurance functions. In my view, the barriers to adoption of Internet-enabled functions by existing managed care organizations are relatively low. Network computing could provide health plans with significant leverage not only to retain their franchises but also to improve their profitability and their customer service.

## **Health Insurance—An IT Quagmire**

For the past several years managed care plans have struggled to cope with increasing cost pressure from the health care system. Although premiums have risen in the past two years, they have barely kept pace with rising medical expenses. With unrelenting pressure on margins, one would have expected investment in information technology (IT) to be a core strategy for managed

care firms to reduce their administrative expenses and to improve customer service.

Many health insurance functions are still, sadly, driven by manual paper processing and telephone interactions. According to Faulkner and Gray, only 18 percent of health maintenance organization (HMO) claims and 45 percent of all commercial health insurance claims were submitted electronically in 1999.<sup>1</sup> The vast majority of these electronic claims must be processed manually because of incomplete or inconsistent data.<sup>2</sup>

Despite the obvious incentives, investment by managed care companies in upgrading their IT capabilities still lags behind other information-intensive sectors of the economy. According to the Gartner Group, health insurers spent only 3.4 percent of their gross revenues in 1999 on IT, compared with 4.1 percent for telecommunication firms and 6.1 percent for financial services firms.<sup>3</sup>

The ability to manage IT effectively has been a critical strategic weakness of managed care firms. IT system failure (brought about by rapid growth) played a crucial role in the near-collapse of Oxford Health Plans in 1998 and Harvard Pilgrim Health Care in 1999. Moreover, when cash flow evaporates, innovative IT strategies are often sacrificed to the budget cutter's knife. When Foundation Health Plan's operating profit disappeared in 1998, one of the first casualties was its promising Fourth Generation (4G) Medical Management system, which combined many innovative customer service and physician support features.

## **The Promise And Perils Of Frictionless Commerce**

In other sectors of the economy, the movement to e-commerce has had a common set of effects: marked reductions in transaction costs, increased velocity of both transactions and the flow of cash related to them, increased transparency of the value chain and the customer service process, and vanishing margins of traditional intermediaries such as dealers, brokers, and wholesalers.<sup>4</sup>

These increases in speed and reductions in the complexity of transactions have led commentators to refer to e-commerce as "frictionless" commerce. While reduced friction is wonderful for consumers, it is a mixed blessing for businesses. As Gary Hamel wrote in a recent commentary, "Most companies owe a good portion of their profits to friction. Friction inflates prices. Friction reduces competitive rivalries. Friction protects margins. So for many companies, the profit-boosting benefits of Web-derived efficiencies will be overwhelmed by the price-deflating effects of ever less friction."<sup>5</sup>

If these effects manifest themselves in health insurance, we can expect to see 70—90 percent reductions in unit costs of claims processing, subscriber enrollment and verification, medical management, network management, and an array of related administrative functions. Booz-Allen and Hamilton has estimated the distribution, consulting, and administrative expense of health benefits at \$18 billion annually— \$5 billion for sales and marketing costs of health plans (including brokerage commissions), \$3 billion paid to benefits consultants, and \$10 billion for health plan overhead.<sup>6</sup> A recent study by Ernst and Young estimated that health insurers could have net savings of at least \$3.6 billion on these functions by incorporating e-commerce solutions.<sup>7</sup> These cost reductions could greatly improve profitability for health insurers. At the same time, intensive price competition in "commodity"-type services such as insurance brokerage, electronic claims processing, and other essentially clerical or administrative functions could reduce both margins and employment in these activities.

Futurist Ian Morrison has called the Internet "the mother of all commoditizers," in that it converts complex, labor-intensive processes into low-cost but low-margin electronic transactions. The advantages in improved service and reduced cost from e-commerce tend to "drop through" to

the end user, with relatively few profits “sticking” to the innovators themselves.<sup>8</sup> The ability to preserve or increase margins, therefore, depends on offering unique value to customers through improved service.

### **Administrative Services Only**

The key historical function of health insurance was to pool risk, rendering health costs more predictable for the insurer and coverage more affordable for the customer. Yet a major trend over the past thirty years in the United States has been for the more stable risk groups represented by larger employers to withdraw from health insurance risk pools and self-fund their health insurance. This has created a bifurcated market for health coverage: full-risk insurance where risk is actually transferred to the insurer, and self-funded health benefits coverage where all the health plan does is provide administrative and consulting support, and the employer retains the risk.

Many U.S. businesses already “outsource” health benefits management while retaining the economic risk of employees’ health costs. An estimated 54.8 million Americans are covered by self-funded plans, roughly 35 percent of the employer insurance market.<sup>9</sup> The impetus for employers’ withdrawal from insurance risk was the shelter provided in 1974 by the Employee Retirement Income Security Act (ERISA) from state premium taxes, state-mandated coverage, and tort liability related to medical care. Thus, for most large employers, health plans provide administrative services only (ASO), including claims processing, medical management, actuarial consulting, and access to the provider discounts afforded by “renting” the health plan’s network of provider contracts.

The ASO market is a low-margin, labor-intensive, commodity business staffed by low-skill clerical and nursing personnel laboring in rooms full of grim cubicles. Typically, ASO fees represent 2–5 percent of premiums, not counting claims-processing costs, and profit margins are at best 1 percent. Generally, the larger the company, the less profitable the account. There are precious few points of differentiation among various health plans. Health insurers pursue these arrangements not for the economic returns from the ASO contracts themselves, but to improve their bargaining leverage with hospitals and doctors by increasing the pool of lives they represent.

Those whose health risk is actually transferred to health insurers—large public employers, individuals, sole proprietors, and small firms—swim in an increasingly choppy sea of unstable risk and explosively rising premium costs. Premiums for small-group and individual coverage are generally 20 percent higher than for larger-group accounts. Part of this difference represents the market cost of commissions to insurance brokers who control access to this highly fragmented market. However, the relative lack of competition for smaller groups and individuals is also responsible. This market has been the traditional stronghold of Blue Cross plans.

### **Internet Applications In Benefits Administration**

In the next decade health insurers will be under siege in their ASO businesses and see already low margins driven lower by start-up firms, niche vendors, and large benefit management firms. However, it is not clear how much margin competitors to health plans can expect to generate with Internet applications.

In the risk insurance market, network computing not only will lower the administrative expenses for insurers and increase operating profits but also will greatly improve customer

service. Internet applications also will alter the distribution channels for individual and small-group insurance, threatening the insurance broker middleman with lower-cost, Web-enabled alternatives and direct marketing by the plans to subscribers. However, network computing also could accelerate the deterioration of risk pools by encouraging a further exodus of insured lives into defined-contribution health plans and open up new opportunities for risk selection by vendors of niche health insurance products such as medical individual retirement accounts (IRAs).

The major Internet-supported applications in health benefits include human resource management itself, claims processing, medical management, and network development.

- **Human resource management.** The human resource (HR) management function, of which health benefits are a part, is a prime candidate for outsourcing using Internet applications. The Internet is creating the capacity to outsource many HR functions, including benefits administration, payroll, and training.<sup>10</sup> Under these emerging models, supported on remote servers by application service providers (ASPs), employees will have an individualized benefits Web page, which will enable them to enroll in insurance plans; track their vacation time and sick leave; and manage retirement fund contributions and investments, payroll deductions, and so forth.

Internet applications promise to reduce the size of corporate HR departments and open the field to a variety of benefits administration vendors. Traditional consultants such as William Mercer and Hewitt and Associates (who invented the Web-ready concept of cafeteria-style benefits) will play a major role in outsourcing HR management. Sensing this threat, many insurers are rapidly fielding Internet-based offerings to simplify benefits administration, to keep their customer relationships intact.

- **Medical claims management.** Medical claims processing through electronic data interchange (EDI) predates the Internet by almost twenty years. A surprisingly large percentage of health claims already flow to health insurers through electronic conduits. In 1999, of the 4.6 billion medical claims processed by private and public health insurance plans, 64.5 percent were transmitted electronically, primarily through computer tapes and high-bandwidth dedicated telephone lines such as T1 lines. More than 84 percent of all hospital claims and almost 89 percent of pharmacy claims were transmitted electronically in 1999.<sup>11</sup>

While providers who move from tape submission to interactive electronic formats can be expected to save greatly on claims processing expenses, it is questionable how much function or cost savings will be gained by moving health care EDI now flowing through dedicated lines onto the Internet. Far greater savings are likely to be achieved by relocating the full suite of claims management applications—including eligibility verification, adjudication, and payment—to electronic formats and by improving claims quality.

Where the Internet will make a big difference is in enabling connection to the still highly fragmented physician office sector and enabling consumers to track their insurance claims in real time. Physicians' accounts receivable and administrative expenses could be reduced greatly if claims could be filed, adjudicated, and paid electronically, with patients' portions of the claims charged to their credit cards. The technological capability to make this process as simple as the credit card-based purchase is already at hand.

In his marvelous book, *Code and Other Laws of Cyberspace*, Lawrence Lessig argues that commerce on the Internet is regulated by three interacting forces: laws, software code (including network architecture), and, less obviously, social norms.<sup>12</sup> To a great degree, the Health Insurance

Portability and Accountability Act (HIPAA) of 1996 restructured the health care EDI market and may have reduced the likelihood of reliance upon a single, complex payment intermediary. Because of HIPAA's Administrative Simplification provisions, providers need not cope with thousands of claims payment formats for the myriad of health insurers. Rather, by late 2002 health plans will be required to use a common clinical descriptive language and transaction formats specified by HIPAA regulations.<sup>13</sup>

Although the IT systems conversions required to comply with HIPAA are expected to generate substantial new expenses for managed care organizations, the operating savings could run into the billions of dollars. There may be a short-run temptation for health insurers to shift claims processing to EDI clearinghouses to ensure compliance with HIPAA; however, most will use the pressure of compliance as the pretext for upgrading their IT capabilities.

HIPAA is a classic example of how legal decisions can influence the economic structure of cyberspace. Although they will not eliminate variability in insurers' electronic systems, HIPAA's provisions "commoditize" EDI transactions. While some analysts believe that a single new firm, WebMD, may dominate this space, many health care IT specialists believe that by simplifying transaction formats, HIPAA makes the use of multiple electronic platforms for claims processing and management the most likely outcome. Providers and insurers also seem reluctant to empower a new Microsoft in their space.<sup>14</sup>

- **Medical management.** The Internet will streamline and make more transparent the medical management process as well. As it migrates to the Internet, medical management will become essentially invisible and instantaneous, embedded directly in electronic claims management.

Medical management criteria and coverage policy were traditionally developed by the health plan's medical director, aided by external consultants, based on available scientific evidence of clinical effectiveness and cost/benefit to subscribers. Case-by-case authorization of medical services by telephone was costly for both insurers and health providers. It also was a tremendous political liability.

In 1999 UnitedHealthGroup effectively abandoned the process in favor of an automated claims review to identify exceptional patterns of care and behavior by practitioners that might provoke special action. This decision garnered tremendous positive publicity for United. To make this transition possible, United made a large investment in automating claims monitoring, using a rules/medical logic engine. Less well publicized was Aetna U.S. Healthcare's decision in fall 1999 to post its medical management criteria on the Internet. Making medical management policy more transparent to doctors and patients will help managed care plans to dispel some of the perception of arbitrary interference in medical decision making.

Over the longer haul, however, aided by expert systems, medical management will become an automated exception-review process, with the vast majority of claims "green-lighted" electronically for, probably, electronic payment. Although large managed care firms with large in-house IT staffs can build these functions themselves, appropriateness review, exception monitoring, and other medical management activities are eminently "outsourcable." A variety of start-up firms and computer systems consultants are creating Web supported claims review software that insurers or self-funded employers can use to manage their risk.

*Outsourcing to providers.* Of course, in capitated payment systems, medical management is outsourced to the provider entity accepting capitated risk. Capitation greatly simplifies the claims

management challenge because there are no claims, only monthly payments to providers. However, inadequate data on variances in patterns of care and inability to influence physician behavior have hampered many of these provider-led risk-management efforts, resulting in major economic losses under capitated payment.<sup>15</sup> A resurgence of capitation would undercut the rationale for complex health EDI networks. One capitation advocate has referred to elaborate fee-for-service EDT claims processing systems as “electronic buggy whips.”<sup>16</sup>

Emerging capitation models are adapting to the reality of broad provider panels and open access to specialists. Rather than relying on global capitation, health plans may turn to severity-adjusted case rates or so-called contact capitation.<sup>17</sup> Under this methodology, primary care practitioners continue to be paid fee for service and have access to a wide range of specialists for referral of complex cases. Specialists are held at risk for the total cost of specialty care and are paid a lump sum adjusted for severity of illness to manage patients with a particular condition.

*Outsourcing to consumers.* The most powerful driver of the medical Internet is an increasingly frustrated consumer, who uses the Internet to acquire information to help manage his or her own health. By providing patients and their families with health information, decision support, and Web-based tools for navigating the health care system, health plans and new health e-commerce actors can influence care patterns without imposing medical-necessity criteria from afar. This approach resembles jujitsu—relying on informed patients to influence physicians, rather than dictating care decisions to physicians through the payment system.

A number of start-up firms and academic health centers (AHCs) are working to create consensus care pathways that define best medical practices for patients with particular conditions. A coalition of AHCs, including Duke University and Vanderbilt, is working with a Nashville-based start-up firm, EBMWeb, to create care pathways for major diseases for physicians to use. A similar effort is being undertaken by the Health Care Advisory Board, a Washington, D.C.—based health industry research group, in collaboration with the faculty of the Harvard Medical School.

An early decision-support innovator is John Wennberg of Dartmouth University, who in the late 1980s developed Informed Choice, an interactive process that physicians could use with their patients to help them plan care for conditions with multiple treatment options. Patients who used these tools were more satisfied with the care they received and used much less invasive care.<sup>18</sup> Numerous managed care plans have licensed this technology to make it available to their members through the Internet.

- **“Do-it-yourself” networks.** Using Internet technology to “mass-customize” health coverage for employees in defined-contribution health plans has been called by Philip Lathrop and David Carlebach “HMOs’R’us.com.”<sup>19</sup> A recently launched Internet health enterprise, Vivius, proposes to help employers who choose a defined-contribution approach to health benefits to make this capacity available to their employees. Rather than relying on a health plan to package the care system or negotiate rates with providers, Vivius provides employees with a personal Web page that enables them to create their own health network, choosing a personal physician, a panel of specialists, and a hospital from a menu of providers.

Vivius functions as an auction site, bringing providers and patients together based on competitively bid capitation rates. There is no claims management; providers set their own capitated rate for individual subscribers, adjusted for age and sex. Patients can compare the aggregated cost of the network they select with the employer-provided contribution to determine

how much they will pay out of pocket each month and the annual maximum family contribution. Their medical care above this maximum amount will be insured by a wraparound indemnity insurance product.

According to Vivius founder Lee Newcomer, former corporate medical director for UnitedHealthGroup, elimination of medical claims and use of competitive bidding will help to hold down costs while preserving patients' freedom of choice and providers' freedom to set prices. Vivius's principal role is that of a market maker. The health plan role is eliminated, and the only "insurance" in the model is the catastrophic-cost "umbrella" purchased by subscribers and an out-of-network coverage premium paid by providers.<sup>20</sup>

### **Strategic Uncertainties**

Assuming for the moment the technical feasibility of this model, there are numerous practical barriers to its emergence as an alternative to traditional health insurance. These include employers' and unions' resistance to abandoning defined-benefit health coverage, affordability and cost discipline, risk selection, and providers' resistance to assuming risk.

In my view, premature obituaries have been written for the defined-benefit approach to health coverage. Many analysts have assumed that health coverage will follow pension benefits toward a 401k model, where the employer merely hinders the benefit and the employee structures and manages it. The rationale for this shift is compelling: that individuals will spend their own money more carefully than they will their employer's money. Removing the employer from the health plan selection decision also would help to clarify, once and for all, that the health plan's real customer is the subscriber/family.

- **Transition costs.** However, it is also reasonable to assume that employees will not voluntarily take on additional health cost risk if they can avoid it. While there is some evidence of movement on the part of small employers to this approach (as an alternative to simply dropping coverage altogether), the practical barriers to broader adoption of defined-contribution health benefits are sobering.

Removing individuals from group coverage throws them into an expensive and volatile market for individual coverage. And if all the employer does is to provide a lump sum for health insurance purchase, the Internal Revenue Service (IRS) may deem it to be taxable salary, diminishing the cash value of the benefit. Unless employers increase their per capita outlay for health coverage, employees will either have to make up a large premium difference out of pocket or see a significant reduction in benefits.

Accomplishing this transition in the midst of the tightest labor market in decades will be no mean feat. At a minimum, the labor market will have to ease greatly to make the defined-contribution option realistic for most employers. Labor unions can be expected to staunchly resist this approach, not only because of the potential for an increased cost burden on their members, but also because it reduces unions' influence over the health benefits decision.

- **Policymakers' role.** Policymakers have a major role to play in the future of defined-contribution coverage. The most important may be in determining if ERISA continues to shield employers and insurers from tort liability. If Congress strips the liability shield, many self-funded employers may either drop coverage to avoid liability or switch to a defined-contribution model to avoid being the targets of legal action.

Policymakers also could ease the transition from group to individual coverage by clarifying the

tax status of the defined contribution and by making it easier for employers to form purchasing coalitions. This would enable individuals, sole proprietors, and small employers to pool their purchasing for increased bargaining leverage with health plans, doctors, and hospitals.

In addition, policymakers will be implored to help save insurance brokers, who may face extinction from the Web retailing of health insurance (see below). Brokers, who are very influential politically, can be expected to fiercely resist any diminution of their franchise, while they scramble frantically to enable their own businesses to operate through the Web.

- **Affordability/cost stability.** Although resistance by hospitals and doctors to discounting their services to health plans is growing, there is still a large spread between retail and wholesale prices in most health care markets. This spread represents an important competitive advantage for established managed care plans over emerging “retailers” of health services. It is far from clear how affordable a patient-constructed network’s bundle of services will be. This will mostly depend on the degree of providers’ hunger for additional patient volume. One approach to the cost-stability question is for emerging retailers to insist that providers assume some risk in the bidding process, for example, by accepting capitated risk. In Vivius’s model, however, the bidding physician assumes only the risk for the cost of his or her professional services, not for that of consulting physicians, hospitalization, or prescription drugs. It is not clear that relying on pharmacy benefits managers (PBMs) to contain drug expenses or hospital capitation to constrain hospital costs will be robust enough to ensure affordable care.

It also will be interesting to see how many physicians or hospitals are interested in assuming capitated risk under any network model. After the well-publicized debacles regarding provider capitation (the collapse of the physician practice management industry and financial difficulties for many risk-seeking multispecialty physician groups), providers’ appetite for risk assumption is quite low.

It is difficult to imagine an economically feasible approach to mass-customized provider networks in which providers do not assume some economic risk. However, the preferred provider organization (PPO), the most popular form of managed care, is similarly vulnerable to cost pressure. PPOs usually rely on discounted fee-for-service payment, with relatively limited leverage for medical management. In evaluating health benefits approaches, the key is to ascertain how the economic risk of future health costs is distributed among employers, providers, insurers, and families.

It is worth pointing out that if the new medical services exchanges succeed, insurers will copy them, providing Web-driven network-building tools for their subscribers, as well as making the economic consequences of provider choices more explicit.

- **Risk-pool fragmentation.** The rationale for pooling health insurance risk is to average high- and low-risk subscriber costs, rendering the average cost more predictable and affordable. Widespread use of a mass-customized approach to health benefits makes each individual his or her own risk pool. Internet retailing of health insurance opens the door to aggressive risk-segmentation strategies. Health insurers are realizing that retailing health insurance niche products to the online population, with its attractive demographics and incomes, could be a major economic opportunity. Aggressive risk selection in the individual and small-group insurance market would raise rates for those who remained in insured pools. Web retailing may breathe new life into the moribund market for the medical IRA, a product that has thus far been more popular among policymakers than among the general public.

## Managed Care Plans' Responses

The Internet provides managed care plans with a powerful toolbox of functions to improve customer service and create value for subscribers. How effectively the plans use this toolbox will determine how much of their existing business they are likely to retain in the face of emerging competitors. Health plan options include (1) moving administrative and customer-service functions to the Internet; (2) providing an Internet-based quality/cost map of the health care system; (3) providing disease management and decision support for subscribers; and (4) offering direct enrollment options for subscribers, bypassing insurance brokers. In all of these areas, the watch to word is *transparency*: using network computing to help subscribers to see through the complexity of the health care system, to make intelligent choices in managing their own health and to track and manage their transactions with the health plan.

- **The personal Web page.** Progressive health plans are experimenting with providing their subscribers with their own Web pages as the vehicle for managing their health care use. In some cases, such as Blue Shield of California, a Web pioneer, the personal Web page is a customized source of health information tailored to the health risks and concerns identified by the subscriber.

In a more ambitious effort, Group Health Cooperative of Puget Sound created MyGroupHealth, in which subscribers use their personal Web page to communicate with their physician (employed by the plan) and with online sources of medical advice. MyGroupHealth also acts as a platform for delivery of customized disease management support to subscribers with manageable conditions.

In more traditional insurance models, the Web page is a gateway to tracking medical claims and related transactions with the plan. WellPoint has created a capability for members to verify their enrollment, check benefits coverage, and track the payment of claims online (conceptually similar to Federal Express's system for tracking packages).

- **Displaying variation in providers' cost and quality.** The failure of closed-panel health plan products has deprived managed care plans of negotiating leverage with hospitals and physician groups at a strategic time. Regaining economic leverage over hospital and physician costs is going to require new approaches. Some health plans have begun displaying the variation in providers' costs to their subscribers and using variable cost sharing as a tool to encourage patients to migrate to more cost-effective providers.

However, as data on the substantial interprovider variation in patients' risk of adverse outcomes becomes more widespread, plans will have a powerful incentive to display this variation in their provider maps, perhaps offering economic incentives in the form of reduced cost sharing for subscribers who avoid high-risk providers. Subscribers who voluntarily select the highest-quality programs will save the health plan money that might otherwise have been spent treating iatrogenic complications.

An acid test for this approach may be plans' willingness to share among themselves data on surgical complication and mortality rates, hospitals' nosocomial infection rates, adverse drug reactions, and other controllable sources of medical risk. The larger the database of medical incidents, which are buried in the claims trail, the more accurate and compelling the data on variation in risk.

- **Direct marketing of health insurance.** Health plans approach the prospect of direct selling of health insurance to subscribers with great caution. Brokerage commissions represent 10—30 per cent of administrative expenses for managed care plans. The larger the concentration

of individual and small-group subscribers, the bigger the percentage.<sup>21</sup> Given the squeeze on health plan margins and increasing scrutiny of the so-called medical loss ratio, bypassing the brokers (and their commissions) is a tremendous temptation, but one fraught with risk of retaliation (or what analysts call “channel conflict”). The intermediate step is to offer Web access to brokers, lowering their administrative expense related to enrollment and making it easier for them to display and highlight new products.

### **Can Health Plans Innovate Successfully?**

Overall, how effectively managed care organizations respond to the competitive threats discussed above and also to public anger over their role in the health care system will depend on a variety of factors. The most important factors are the ability to implement complex new information systems and to change the paternalistic culture that pervaded managed care during the 1980s and 1990s.

Implementing change is the soft underbelly of any health enterprise. Health insurers also lag behind in adopting Web-based technology. A recent Gartner Group survey suggests that by the end of 2000, 69 percent of managed care plans expect to have Internet-ready eligibility verification; 59 percent, Internet-based claims tracking.<sup>22</sup> Only 36 percent expect to be able to receive medical claims over the Internet by that time.

Delivering promised improvements in service and support is the true test of good intentions by managed care organizations. If in architecture God is in the details, in e-commerce God is in the back end. Given how low consumers’ expectations are, even modest improvements in health plans’ customer service will seem revolutionary. Subscribers will gravitate to those plans and systems that create choices and options for them and support their role as managers of their own and their families’ health.

**IN MY VIEW HEALTH INSURERS** will lose some of their ASO business to emerging e-health competitors, and depressed margins in this sector will shrink further. However, insurers will be protected from new entrants into their markets by the conservatism of corporate benefits managers and by employees’ and unions’ resistance to a defined-contribution approach to health benefits. Internet tools will help greatly to reduce administrative expense related to health insurance. Managed care plans will adopt many of the tools of administrative streamlining and mass customization discussed above.

The emergence of e-commerce has brought a wealth of innovative approaches to health benefits management and the potential for notable improvements in service and responsiveness in a historically customer-unfriendly sector. Expect the ferment in this sector to accelerate with any downturn in the general economy and the balance between risk and responsibility for health costs to tilt toward patients and their families as costs continue to rise.

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### **NOTES**

1. Blue Cross plans have a significant lead over their health insurance competitors in electronic

claims submission, with about 80 percent of all Blue Cross claims submitted electronically in 1999. Medicare has an even higher rate, with more than 97 percent of Part A claims and 81 percent of all Part B claims submitted electronically in 1999. See Faulkner and Gray, *Health Data Directory, 2000 Edition* (New York: Faulkner and Gray, 2000), 21. Unfortunately, these estimates do not break out tape submissions from interactive electronic for mats such as dedicated lines and Internet modalities.

2. Christine Malcolm, Computer Sciences Corporation, personal communication, June 2000.
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4. L. Downes and C. Mui, *Unleashing the Killer App: Digital Strategies for Market Dominance* (Boston: Harvard Business School Press, 1998).
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8. I. Morrison, "The 1% Solution," *Health Forum Journal* (July/August 1999): 45.
9. Employee Benefit Research Institute, *Employment-Based Health Care Benefits and Self-Funded Employment-Based Plans: An Overview*, Facts from EBRI (Washington: EBRI, April 2000).
10. B. Richards, "Employer Benefits: Automating Human-Resource Operations Used to Be a Luxury Only Big Companies Could Afford; Not Any Longer," *Wall Street Journal*~ 15 November 1999. An illustrative new entrant into this market would be eBenX.com.
11. Faulkner and Gray, *Health Data Directory*, 20.
12. L. Lessig, *Code and Other Laws of Cyberspace* (New York: Basic Books, 2000).
13. This format is Version 4010 of the American National Standards Institute ASC X12N. It contains standards not only for electronically submitted institutional and professional dental and pharmacy claims, but also for claims status, enrollment and disenrollment notices, eligibility verification, health plan premium payments, payment and remittance advice, referral certification, and authorization transactions. For diagnoses, HIPAA specifies ICD-9-CM; for inpatient procedures, ICD-9-CM v.3; and for outpatient and physician procedures, CPT-4.
14. In March 2000 a coalition of six major managed care firms announced their plans to collaborate in creating a cooperative national electronic interchange called MedUnite to facilitate electronic claims transmission and settlement. A regional consortium of integrated health systems and insurers in New England has created a cooperative model EDI system called NEHEN, which is expected to save the participating institutions more than \$60 million a year.
15. See M. Hagland, "Big Risk, Small Reward," *Healthcare Business* (Nov/Dec 1999): 35.
16. Lee Newcomer, Vivius, personal communication, July 2000.
17. See L. Page, "Fee for Episode," *American Medical News*, 15 May 2000, 13—14, for a discussion of this methodology, and a specialty services payment firm, Adesso, which has developed it.
18. See J.F. Kasper, AG. Mulley, and J.E. Wennberg, "Developing Shared Decisionmaking Programs to Improve the Quality of Health Care," *Quality Review Bulletin* (June 1992): 183—190; and F. Wagner et al., "The Effect of a Shared Decisionmaking Program on Rates of Surgery for Benign Prostatic Hyperplasia," *Medical Care* 33, no. 8 (1995): 765—770.
19. J.P. Lathrop and D. Carlebach, "HMOs'R'us: A Prescription for the Future," *Strategy+Business* (Fourth Quarter 1998): 16—20.
20. See the Vivius Web site, <[www.vivius.com](http://www.vivius.com)>. A competing approach is offered by another Minneapolis start-up, HealthCare, <[www.healthcare.com](http://www.healthcare.com)>. See L. Page, "An Insurance Alternative: Firms Selling E-Healthcare," *American Medical News*, 15 May 2000, for a review of several competing alternative approaches.
21. John Lee and Jack Friedman, Sisters of Providence Health System, Portland, Oregon,

- personal communication, May 2000; and David Jones, Humana, Louisville, Kentucky, personal communication, July 2000.
22. Gartner Group, 2000 *Healthcare Payer Application Study* (Stamford, Conn.: Gartner Group, May 2000).