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New Sector Alliance (A): An Entry into Health Care?

After the organization's annual board of directors meeting, Carlin (Carly) Janson, president and founder of New Sector Alliance, took a moment to reflect on her organization. Although board members and advisors felt that New Sector Alliance was moving satisfactorily toward its mission of accelerating social change by strengthening social enterprises today, while developing socially responsible leaders for tomorrow, a hole in New Sector Alliance's nonprofit client roster troubled Janson: health. Nonprofit organizations abounded in the health sector. Among the U.S.'s 100 largest nonprofit organizations, ranked by income, health organizations were second, behind human services.¹ Approximately 35,000 of the nation's hospitals, over 85%,² and five of the top 25 leading U.S. health insurers operated as nonprofits.³

But, despite the size of the opportunity, a move into the health industry could be a risky undertaking for this small organization, itself a nonprofit. The U.S. health care system was a complicated web of powerful and political nonprofit, private, and government players. Could New Sector Alliance provide real value?

Before she recommended an expansion into the health sector, Janson felt she should better understand the structure of the U.S. health care sector and the role nonprofit organizations played within it. She would then decide how best to make an impact. What were the unique needs of nonprofit organizations in this market? Did New Sector Alliance possess the expertise to serve them? Finally, if New Sector Alliance decided to pursue this opportunity, how should it prioritize its activities?

New Sector Alliance

*History*⁴

Janson and a group of volunteers from a handful of top strategy consulting firms established New Sector Alliance as a nonprofit initiative. The program was designed to connect consulting professionals and students, and the resources of their personal and corporate networks, to underserved community-based organizations working to solve pressing social problems.

New Sector's dual mission was to advance social change by strengthening organizations today, while developing leaders for tomorrow. This mission was similar to that of McKinsey & Company

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and other leading professional services firms, which was “to help our clients make distinctive, lasting, and substantial improvements to their performance, and to attract, develop, excite, and retain exceptional people.” However, rather than being a predominantly private sector consultancy, New Sector was designed to help social sector leaders.

To control costs and provide productive community service opportunities for business professionals and students, New Sector trained and supported MBA and undergraduate student “Associates” and “Analysts,” and professional volunteer “Advisors” and “Coaches” to do the work that highly paid professionals did for for-profit consultancies at market rates. By mobilizing students and faculty from top-tier academic institutions, as well as volunteers from top-tier management consultancies, New Sector was able to provide both high-quality, low-cost consulting services to clients, and structured leadership development opportunities to professionals and students.

After starting numerous informal programs, including an “Initiative for Social Innovation” and a nonprofit consulting program, Janson secured seed funding and in-kind donations of consulting services, office space, and technology to build an independent 501(c)(3) nonprofit organization. After nearly 18 months of planning and preparation, New Sector officially incorporated in the state of Massachusetts and hired its first full-time staff members.

Staff and Board

New Sector staff sourced nonprofit organizations to receive consulting services, vetted and matched student and professional participants, coordinated training, provided project management support, and performed quality assurance and evaluation. The organization relied on a lean staff of program and operations managers, supported by several part-time volunteers and a board of directors. New Sector’s board encompassed its stakeholder groups with members from consulting, venture capital and law partners, and nonprofit and social enterprise leaders. With modest seed funding, the organization had achieved remarkable success during its early years by motivating highly talented young people to run its programs and by bootstrapping operational resources in a creative, cost-effective manner.

New Sector Alliance could rely on a lean staffing model partly because of its partnerships with several leading academic institutions, including Harvard Business School and Harvard College, MIT’s Sloan School of Management, Stanford’s Graduate School of Business, and the University of California at Berkeley and UC Berkeley’s Haas School of Business, and partnerships with strategy consulting firms and other corporations. New Sector Alliance recruited students from partner schools to work within larger consulting teams composed of some combination of client project sponsors, faculty advisors, and partners and managers from partner consulting firms, including Accenture, the Boston Consulting Group, and McKinsey & Company. New Sector also leveraged significant in-kind contributions from academic institutions, corporations, and large nonprofit organizations.

Current Service Offerings

In 2004, New Sector Alliance offered three services (see **Exhibit 1**) to nonprofit client organizations.

Since its inception, New Sector had executed 60 engagements with 42 different clients while serving 210 different students and 168 different business professionals, representing \$5.6 million in market value of consulting services through its two core programs, and an additional \$1 million in services (based on market value) through its Custom Consulting service.

Through their engagements with nonprofit clients, New Sector consultants achieved a variety of positive results. Examples of New Sector's impact included: outlining benchmarks necessary to grow an innovative apprenticeship-based after-school program from 12 to more than 24 sites and from serving 1,200 students to serving more than 2,400; creating a growth plan for an educational program designed to place inner-city young adults in technology jobs, which would enable it to mobilize \$2.4 million in grants; and developing an outcome measurement system for a year-round youth development organization that offered free sports instruction and academic enrichment.⁵

A Move into Health Care?

New Sector Alliance's possible expansion into the health sector was driven by four main factors. First was the notion that this large opportunity was vital to effecting social change. Expanding the ability of nonprofits to provide better access to better-quality health care was consistent with New Sector Alliance's goals.

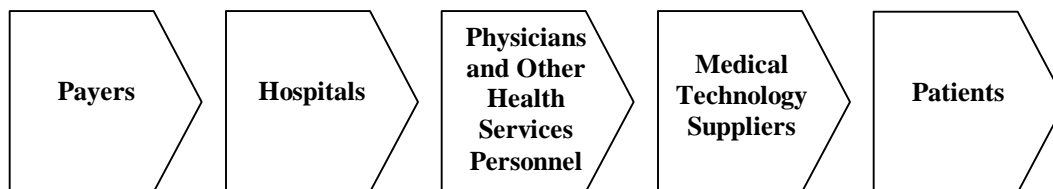
Health was also a favored funding recipient among New Sector Alliance's targeted investors and strategic partners. Since inception, for example, the Bill and Melinda Gates Foundation had invested over 50% of its \$6 billion grant funding capacity in global health concerns.⁶ Several of New Sector's potential individual investors were also actively involved in the health care market—as successful physicians looking to reform the health care industry, venture capitalists, or top executives of major health care and biotech companies.⁷

Third, expansion into health care could help New Sector Alliance attract a larger pool of student and professional consultants. New Sector Alliance's market research suggested that its target consultants were most passionate about education and health care in the public interest sectors. The organization already offered many consulting engagements in education but very little in the way of health care.

Finally, Janson's own personal interests drove an exploration into the nonprofit health market, as she described herself as “integrally involved in the health space since childhood.” Her father was a physician, and she and her sister (a medical student) had always been aware and “passionate about improving the gap between the ‘haves’ and ‘have nots’ in health care.” Her professional and personal life had been greatly influenced by these feelings, as she completed a concentration in health care economics in college and worked on several health care-related consulting engagements during and after college. In addition, the onset of a rare, prolonged illness before starting New Sector Alliance left Janson very frustrated at the current state of the health care system: “I had to take a disability leave from work and that whole, very difficult period definitely inspired me to invest energy in getting people access to health care—especially those who do not have the financial resources or education to know how to keep themselves healthy.”

The Structure of the Health Care Sector

The five major groups in the health care delivery process are identified in **Figure A**. Their roles will be discussed in detail below. Janson wondered which of them represented the best opportunity.

Figure A Major Groups Involved in Health Care Delivery

This graphical representation of patient care simplifies the complex flows of products, money, and information within day-to-day health care operations. In addition, several intermediaries and aggregators play important roles, as described below.

The Structure of the Health Care Sector

Payers^a

Between 1980 and 2001, U.S. health care spending grew 9.2% annually from 1980 expenditures of \$245.8 billion—8.8% of the nation’s GDP—to more than \$1.4 trillion in 2001, 14.1% of GDP. Per capita spending grew at 8.8% during this 20-year period, from \$1,067 in 1980 to \$5,035 in 2001.⁸ During the mid-1990s, this trend slowed, maintaining a flatter 5% growth year over year. But from 2000 and 2006, annual health care spending growth once again accelerated.⁹ (**Exhibit 2** displays the 2003 sources and uses of these funds.)

While some felt that new consumer-driven cost-containment strategies introduced by mid-2002 could prevent this “spike” from continuing in future years,¹⁰ many agreed that national health care expenditures would reach an estimated \$2.8 trillion, or 17.0% of the U.S. GDP, by 2011, driven largely by the aging U.S. population. In 2011, the baby boomer cohort (U.S. citizens born between 1946 and 1964) would reach age 65, bringing the total number of Americans over 65 to an estimated 40.4 million, or 13% of the projected population.¹¹ While advances in self-care, medical technologies, and pharmaceuticals would likely improve the health of this group, their prevalence was expected to increase demand for long-term care, home health care facilities, and medical service providers.¹² Already, by 2003, the 65-and-older segment accounted for an estimated 40% of total health care expenditures.¹³ **Figure B** shows the relationship between the age of users and costs per person.

Figure B Health Care Costs by Age, 2000

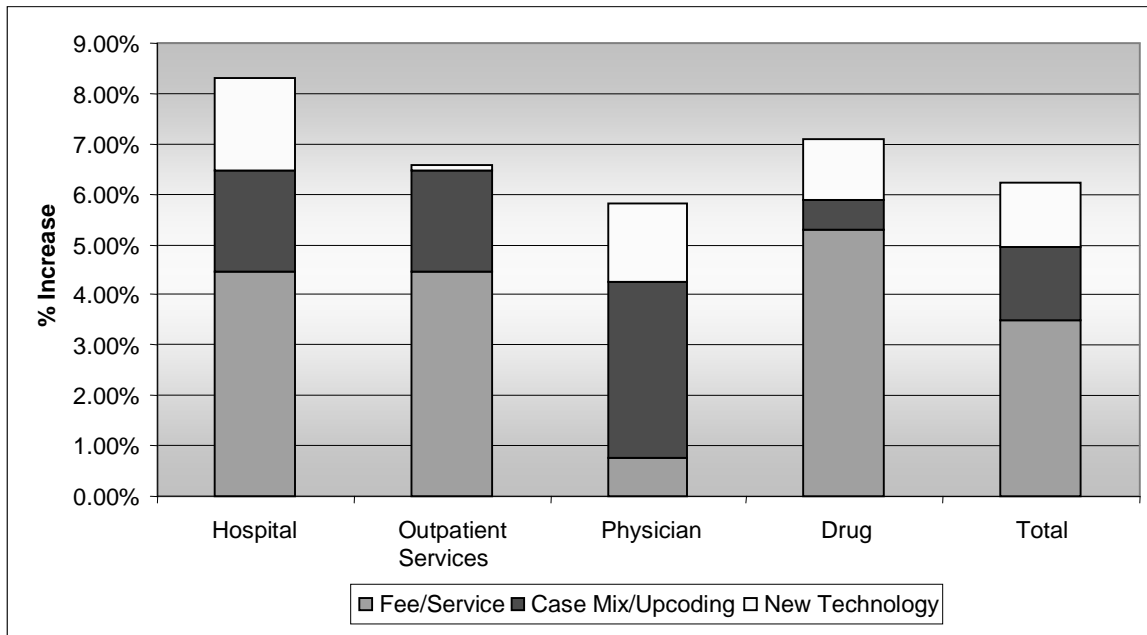
Age	Average Cost	Cost of Services	Other Costs, Including Drugs
<25	\$ 504	\$178	\$ 115
45–54	2,200	690	525
65–74	3,163	686	870
75+	3,338	658	1,049

Source: Large insurer annual meeting, private correspondence to Regina E. Herzlinger, September 2004.

^a For more on this topic, see Regina E. Herzlinger, “Note on Financing of the U.S. Health Care Sector,” HBS Note No. 304-039, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003).

Payers reimbursed health care providers for their services and products. U.S. health care expenses were usually paid by one or some combination of individuals, employers, indemnity insurers, managed care organizations, and the government. Their roles in financing the U.S. health care system are delineated below. These groups were interrelated. **Figure C**, for example, shows the impact of hospital, physicians, and drugs on the total costs borne by the payers.

Figure C Cost Increase Drivers by Source—2003



Source: Large insurer, private correspondence to Regina E. Herzlinger, September 2004.

Individuals Individual patients were ultimately financially responsible for their health care services. Even individuals who were insured—privately through individual- or employer-sponsored plans, or publicly through Medicare, Medicaid, or other governmental programs—typically incurred some out-of-pocket (OOP) payment for health-insurance premiums, membership fees, uninsured health care purchases, and/or copays for medical services. As seen in Exhibit 2, these costs could be substantial: \$53.6 billion for drugs and \$30.9 billion for long-term care. Although long-term care insurance was available, in 2002, only 8.26 million policies were in force. The policies were costly. A policy that paid \$150 daily for four years, with 5% inflation, cost \$1,000 annually if purchased at age 50 and \$2,300 if purchased at age 65.¹⁴ Uninsured long-term care expenses were costly too. In 2002, the average annual cost for nursing homes was \$62,000, or \$171 per day. A 10-hour shift for a home health aide cost \$180, with daily costs as high as \$385. A 50-year old could expect to spend from \$320,000–\$720,000 for nursing home care by age 80.¹⁵

The health care needs of the estimated 41.2 million Americans—14.6% of the U.S. population—who were uninsured in 2001 were paid through some combination of charitable care and OOP. The number of uninsured increased by 1.4 million from 2000.¹⁶ Several demographic and economic factors, such as age, race, nativity, educational attainment, income, employment status, and firm size, increased the likelihood of being uninsured.

- **Age.** Young adults who were aging out of children's health coverage were more likely than others to be uninsured; over 28% of 18- to 24-year olds were not covered in 2001. Among the poor, Americans aged 18 to 64 had a significantly higher uninsured rate (42.5%) in 2001 than people under 18 (21.3%) or over 65 (2.7%).^{17,18}
- **Race.** Ethnic minorities were more likely to lack health coverage between 1999 and 2001. Hispanics, Native Americans, and Native Alaskans had uninsured rates of 33.2%, 33.0%, and 33.0%, respectively, compared with 19.2% for blacks, 18.5% for Asians and Pacific Islanders, and 9.8% for non-Hispanic whites.¹⁹
- **Nativity.** Over one-third of the U.S.'s foreign-born population was uninsured in 2001, more than double that of the native population. Among the foreign born noncitizens were much more likely than naturalized citizens to be uninsured (42.9% versus 17.2%).²⁰
- **Educational attainment.** In 2001, the likelihood of being uninsured decreased with educational attainment. That year, coverage rates decreased for people without high school diplomas, those who were high school graduates only, and those with some college but no degree.
- **Income.** Low-income individuals were vulnerable to being uninsured in part because they experienced frequent fluctuations in family structure and employment status and often faced eligibility and procedural challenges to enrollment in government-subsidized coverage.²¹ In 2001, 23.3% of households with annual incomes of less than \$25,000 were uninsured, while only 7.7% of households with incomes over \$75,000 lacked coverage.²² However, moderate- to high-income households were at increasing risk of being uninsured.²³ Of the 1.4 million newly uninsured in 2001, 57% had household incomes of at least \$75,000. This 14.0% growth rate compares with only a 2.7% loss-of-coverage rate among households earning less than \$25,000 during that year.
- **Employment status.** Among all Americans aged 18 to 64 in 2001, the unemployed were more likely to be uninsured (at 24.7%) than part-time (22%) or full-time (16%) workers. Among the poor, however, full- and part-time workers (at 50.3% and 46.0%, respectively) were more likely than the unemployed (at 46.0%) to be uninsured.²⁴
- **Firm size.** The proportion of American workers who received health insurance from their employers in 2001 decreased with firm size. Only 31.3% of firms with fewer than 25 employees offered health-insurance benefits that year, while 69.6% of firms with more than 1,000 employees offered employer-sponsored coverage.²⁵

There were negative social, political, and financial consequences to these statistics. Half of all uninsured adults indicated having practiced at least one of the following cost-saving strategies in 2001: neglected to see a doctor when sick, left their prescriptions unfilled, skipped recommended medical tests, and/or did not see a specialist. Financially, almost three-quarters of all uninsured adults were forced to deplete their savings to pay for medical bills. Health costs accounted for 40% of all personal bankruptcy filings in 1999.²⁶ There were also consequences for the nation at large because uncompensated care was ultimately financed through taxes and higher insurance premiums.^{b,27}

In response, several private and public initiatives were formulated to extend coverage to the uninsured.

^b For business innovations for the uninsured, see Regina E. Herzlinger and Michael Sherman, "HealthAllies," HBS Case No. 302-019, Rev. August 2006 (Boston: Harvard Business School Publishing, 2004).

- **Increasing enrollment in existing public programs.** In 2001, many states began raising their income and eligibility requirements for government-sponsored insurance plans beyond federal minimums. In addition, they extended enrollment to parents of children eligible for these programs. Some states even broadened their coverage through funding from nonfederal sources, such as Pennsylvania's use of its national tobacco settlement money to support its program.²⁸
- **Establishing tax benefits for purchasing health insurance.** Policymakers debated the merits of the following financial incentives to encourage individuals and employers to purchase health insurance: (1) refundable tax credit for all workers; (2) expanding the use of tax-advantaged health savings accounts; (3) tax credits for small employers; and (4) expanding tax-benefits for the self-employed.²⁹ The Trade Act of 2002 offered partial tax credits for health insurance purchases among 140,000 U.S. workers displaced by new trade laws.³⁰
- **Public-private linkages.** Some public policymakers considered using public funds to subsidize the purchase of employer-sponsored insurance in the effort to help low-income individuals pay their share of premiums. A few states had already instituted "premium assistance" programs to offset the OOP costs of those enrolled in state-funded Medicaid and the Children's Health Insurance Program (CHIP).

Employers Employers provided about 175 million people—60.4% of the U.S. population—with medical coverage in 2003. Employer-sponsored health plans provided tax benefits to both employers and employees. Employers' health care expenses for their employees were tax deductible as a business expense, while employer-sponsored coverage was usually less than what employees could negotiate in the market individually and their insurance premiums were not taxed as income.³¹

Employers either purchased health plans from outside insurance companies or "self-funded" them, paying their employees' medical costs and hiring a firm to administer the plan. Self-funded coverage was regulated by the federal government under the Employee Retirement Income Security Act of 1974 (ERISA), which preempted individual state laws regulating private sector health plans, making it easier for employers to offer the same health insurance package in multiple states. Under ERISA, employees who felt they were wrongfully denied health benefits could sue but only in federal court and only for the immediate value of the denied medical care, not for resulting economic loss or punitive damages. Such provisions "effectively closed off liability lawsuits against health plans, insurers, and employers covered under ERISA."³² In contrast, employer sponsored purchased insurance plans were subject to state insurance laws, including those that required the inclusion of certain benefits in the employers' health insurance plans.³³

After rather modest increases from 1995 through 1999, health care premiums for U.S. firms jumped 8.3% in 2000, 11.0% in 2001, and 12.7% in 2002.³⁴ (See **Exhibit 3** for these trends from 1993 through 2002.) By 2006, employers found it increasingly expensive to provide medical benefits to their employees.

Rising costs caused many employers to increase employee premiums and share more costs with employees.^{35,36} Some firms attempted to combat rising costs by instituting consumer-driven health plans, intended to control costs by empowering employees to make their own health care spending decisions.^{c37}

^c For more on this topic, see Regina E. Herzlinger, Seth Bokser, and John Hurwich, "Consumer-Driven Health Care: Medtronic's Health Insurance Options," HBS Case No. 302-006, Rev. August 2006 (Boston: Harvard Business School

Private insurers The products offered by insurers included the following.

Indemnity insurance plans were sometimes called “fee-for-service” plans. Insured patients paid a premium and an annual deductible, usually in the range of \$200 to \$500, after which the plan generally paid 80% of “usual and customary” charges for medical services. Indemnity plans typically offered an unlimited choice of doctors, hospitals, and other health care providers and were usually the most expensive type of plan.

Managed-care organizations gained favor in the 1980s. Enrollees agreed to limit their care to specific doctors and hospitals—called a network—in exchange for reduced costs. These plans also used financial incentives, such as copayments and deductibles, to discourage members from straying beyond the plan’s network of health practitioners. In 2001, 93% of insured Americans were enrolled in managed-care plans, compared with only 54% in 1993.³⁸ To attract members, managed-care plans offered additional benefits, such as pharmaceuticals and checkups typically not covered by indemnity providers.

Managed-care organizations could be classified by the freedom they allowed their members in the selection and use of physicians. Generally, more choice translated into higher cost. The types of managed care, listed by decreasing control, included health maintenance organizations (HMOs), point-of-service (POS) plans, and preferred provider organizations (PPOs). Often, one managed-care organization offered a hybrid of several plans.

Health maintenance organizations (HMOs), incorporated either as private enterprises or nonprofit organizations, were the least expensive and most restrictive managed care plans. Four major restrictions were placed on their members. First, only in-network physicians could attend to patients. Next, patients’ primary-care physicians (PCPs) must administer all care or else personally refer patients to in-network specialists. In this role they were known as “gatekeepers.” Third, in-network physicians needed prior HMO approval before administering certain services. Finally, members had limited rights to challenge the plan’s decisions.

Four basic structures governed relations between HMOs and their participating physicians.

- **Staff-model** HMOs hired physicians and other health care providers in their networks as salaried employees and often offered financial incentives for reaching performance and productivity goals. Such HMOs employed physicians in most specialties and subcontracted with local specialists for less frequently needed health care services.
- **Group practice** HMOs contracted with a multispecialty physicians’ practice that employed its own PCPs and specialists. In some cases, doctors saw both HMO and non-HMO patients; however, their principal focus was usually on treating HMO members.
- **Network model** HMOs contracted with more than one group practice to provide services to their members, including broad-based, multispecialty group practices and several small doctor groups, each consisting of about seven to 15 primary care physicians and specialists. Physician groups were responsible for providing all patient care services to members.
- **Independent practice association (IPA)** HMOs contracted with a regional association of physicians to provide health care services to their members. IPA-affiliated physicians

Publishing, 2001); and Regina E. Herzlinger and JoAnn Laing, “Note on Health Spending Accounts, Flexible Savings Accounts, and Health Reimbursement Account Vendors,” HBS Note No. 307-034 (Boston: Harvard Business School Publishing, 2006).

remained individual practitioners who also treated non-HMO patients and maintained their own offices, medical records, and staff.

As patients and physicians increasingly resisted the use of gatekeepers and stringent controls, managed-care organizations developed more expensive insurance products that offered more freedom.

Point-of-service (POS) plans combined HMO-like benefits with the features of traditional indemnity plans. Like an HMO, a POS plan required participants to select an in-network primary care physician and covered all eligible in-network care administered and referred by this gatekeeper. Participants had the option, however, of paying deductibles and copayments to consult out-of-network physicians.

Preferred provider organizations (PPOs) did not require members to select PCP gatekeepers. Instead, they listed “preferred providers” who could be consulted for either a discounted fee or a fixed copayment. Members could see off-list physicians at greater cost. Like indemnity plans, all managed care usually had an annual out-of-pocket maximum limit of \$2,000 or \$3,000. Over time, among workers with employer-sponsored health coverage, the popularity of PPOs soared, at the loss of HMOs and indemnity plans.

The early 2000s were a boom period for the cyclical underwriting industry. Most insurers could increase premiums sufficiently to outpace medical cost inflation and provide additional profits. (**Exhibit 4** lists the top commercial insurance companies in 2003, ranked by net income.) Nonprofit entities played a large role in the health insurance market. The largest chain was Blue Cross Blue Shield Association, a federation of 43 independent, locally operated plans, 29 of which are nonprofits. The largest nonprofit HMO was Kaiser Permanente a partnership of the nonprofit Kaiser Foundation Health Plan and Hospitals and the Permanente Medical Groups, with 8.4 million members in 2003.³⁹

Commercial and nonprofit insurers consolidated to achieve economies of scale, which they believed increased their ability to reduce the prices of participating suppliers, physicians, and employers. Consolidated insurers also used their scale to gain bargaining leverage with employers that sponsored health plans. Scale could also help payers contain costs by increasing administrative efficiency, particularly in light of recent Health Insurance Portability and Accountability Act (HIPAA) legislation, which demanded an increased level of regulatory and administrative policing. Insurers also cited benefits of scale in making large information technology infrastructure investments, but some researchers found scant evidence for this claim.⁴⁰ Payers would fund deep discounts on large, prominent corporate accounts in the hope that these loss leaders would increase their market share, attract other customers, and enable favorable negotiation in the future. Consolidation in the managed care industry offered national employers fewer alternatives and, therefore, less power in these negotiations.

Many nonprofit insurers converted to for-profit status. Beginning in the 1990s, Blue Cross Blue Shield plans successfully converted in 14 states and Puerto Rico. Conversion enabled access to new forms of capital through equity markets. Insurance behemoths WellPoint and Anthem, once not-for-profits, acquired all but three of the Blues plans soon after their conversions and then merged with each other.^d Some states, such as Maryland and New Jersey, blocked for-profit conversions for fear of negatively affecting physicians and patients. Typically, physicians experienced lower reimbursements from for-profit payers.⁴¹ Further, both physicians and patients reported better customer service and fewer administrative problems with nonprofit insurers. In a 1999 study

^d For more on this topic, see Regina E. Herzlinger, “WellPoint, Inc.,” HBS Case No. 306-074 (Boston: Harvard Business School Publishing, 2006).

comparing 248 for-profit and 81 nonprofit plans, nonprofit plans outperformed on all 14 indicators in the researchers' "effectiveness of care" category.⁴² In addition, the record profits the Blues earned in 2002 raised questions about the need for capital. Last, the regulators who rejected one conversion criticized the price of the deal and the excessive bonuses to top executives.⁴³

U.S. Government The U.S. government was another major provider of medical benefits. Medicare, which covered more than 40 million elderly and disabled, was the country's largest health insurer, partially funded and administered through the federal government. In 2003, Medicare comprised 17% of U.S. government spending. Its 2003 budget of \$254 billion was expected to rise to \$600 billion, or 25% of the federal budget, by the year 2025.⁴⁴ Medicaid, the primary source of health care coverage for low-income children and adults, insured 45 million people in 2003. Medicaid was administered jointly by federal and state governments and was expected to account for \$280 billion in public health care spending in 2003—\$159 billion from the federal government and \$121 billion from the states.⁴⁵ Together, these programs comprised about 36% of all health care spending in 2003.⁴⁶

In addition to Medicaid, states' health care budgets encompassed health insurance premiums for state and local government employees and retirees, state-funded hospitals, veterans' hospitals, Department of Defense health initiatives, mental health services, public health programs, the State Children's Health Program (SCHIP), and a "free-care pool" intended to help a small percentage of low-income, uninsured, and underinsured state residents secure access to health care.⁴⁷

Hospitals

Five types of hospitals provided services in the United States: acute care, chronic care/nursing homes, rehabilitation, psychiatric, and assisted living.

The most common, acute care hospitals, offered a full range of inpatient and outpatient medical services. Such hospitals hosted physicians, nurses, radiologists, social workers, and other health care professionals, some of whom were employed by the hospital or affiliated with trade organizations or private practices.

Hospitals were also classified by type of ownership. Of the 5,794 hospitals in the United States in 2003, 51% were nonprofit, 19% state and local government owned, 13% for profit, and 4% federal.⁴⁸ More than 59% of the nation's 975,962 hospital beds were nonprofit in 2002, with an occupancy rate of 65.8%.⁴⁹ Nonprofit hospitals accounted for 66% of that year's total 36.3 million hospital admissions and 65% of the 640.5 million outpatient hospital visits.⁵⁰ (**Exhibit 6** contains selected statistics for hospitals with varying ownership structures.)

Despite their minority ownership, federal and state governments exercised considerable power over all hospitals because Medicare, the largest insurer, paid for almost half of all hospitals' bills. When Medicare and Medicaid legislation was passed in 1965, the government reimbursed hospitals on a "cost plus" system, paying providers for services, indirect costs associated with administering these services (including a percentage of overhead), and an additional 2% to encourage hospital participation. When it became apparent that this system inflated hospital spending, in 1983 Congress adopted a "prospective payment system" (PPS). This system established fixed payments for the treatment of Medicare patients based on 511 different disease groups, known as diagnosis-related groups (DRGs). Although DRG payments were adjusted for hospital location, size, length of stay, share of low-income patients, and the provision of graduate medical education, all payments were predetermined and did not reflect a hospital's individual cost experience.⁵¹

In the 1980s, hospitals felt pressure from government, managed care organizations, and employers to lower their costs. By the early 2000s, however, hospitals were using consumer demand for services, industry consolidation, and capacity shortages to regain some negotiating leverage over health insurers. They subsequently won payment increases of about 9%, enabling them to fund their 3% average admissions growth and increase wages to attract new workers.⁵² As a result, hospitals were the key drivers of overall health care spending growth. In 2001, expenditures for inpatient services increased 7.1%—nearly three times the rate of increase in 2000 and the largest increase in over a decade. Hospital outpatient services also grew 16.3% in 2001, surpassing prescription drugs as the fastest-growing component of total health care spending. Together, inpatient and outpatient services accounted for over half of the growth in total health care spending that year.⁵³

Despite these gains, hospitals faced an uncertain future in the early 2000s. “Potential long-term pressure on Medicare rates and reduction in Medicaid reimbursement, greater debt issuance and capital needs, rising expenses, a prolonged economic downturn, and competition from physicians and specialty hospitals could pose challenges,” noted one industry analyst.⁵⁴ Ongoing cost control strategies included consolidation, a shift toward outpatient procedures, shortening inpatient stays, understaffing, and the formation of buying groups.

Mergers To eliminate excess capacity and create operating efficiencies, some hospitals merged. Mergers enabled for-profit facilities to absorb their struggling nonprofit counterparts and form financially stable hospital chains to expand beyond their traditional geographic market. The result was a steady decline in the number of hospitals in the United States. While U.S. hospital admissions between 1995 and 2000 had a 0.9% compound annual growth rate, the total number of hospitals decreased 1.6%. In 2004, there were more than 100 hospital mergers and/or acquisitions, valued in excess of \$9 billion.⁵⁵ Such mergers have been targeted by government agencies as a driver of health care costs. In January 2005, the Federal Trade Commission (FTC) reasserted its firm **opposition** to hospital mergers. In one case, the FTC has claimed that the 2000 takeover of Highland Park Hospital by Evanston Northwestern Healthcare Corp. was a violation of antitrust laws. The FTC maintained that after the merger, Evanston Northwestern utilized its market share to increase average prices by 40%–60% and as much as 190%. The FTC, however, has not been successful in its past attempts to block hospital mergers. During the 1990s, the FTC and the Department of Justice lost all seven of their challenges to hospital mergers.

For-profits As in the insurance industry, there was considerable debate about the merits of for-profit versus nonprofit status among hospitals. For-profit advocates claimed that access to the equity markets and a business orientation promoted greater efficiency and lower costs. Nonprofit supporters asserted that the tax-exempt bond market provided nonprofit hospitals with sufficient access to capital and reduced emphasis on a “profit motive” that could lead to a “compromise in the quality of care.”⁵⁶

Outpatient services Cost-cutting pressures and the advent of new medical technologies enabled many hospitals to perform one-day outpatient procedures that traditionally required expensive inpatient surgery, lengthy hospital stays, and weeks of recuperation. Outpatient hospital visits grew at a CAGR of 4.2% between 1995 and 2000, and outpatient surgeries accounted for 62.7% of total surgeries in nonfederal hospitals in 2000. Inpatient admissions, too, increasingly required shorter stays. The average length of stay decreased from 11.4 to 6.8 days between 1975 and 2000.^e

^e For more on this topic, see Regina E. Herzlinger, “HealthSouth Corporation,” HBS No. 304-006, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003).

Another strategy used by hospitals to cut costs was understaffing because labor typically accounted for 40%–50% of hospital operating costs. This strategy forced existing staff to see more patients, work longer hours, and float to various units as needed—most often without commensurate increases in pay. A long-term consequence of this strategy was a widespread shortage in health care workers, especially nurses, who left the profession for less stressful, higher paying jobs. Fewer students applied to nursing schools, and the United States faced approximately 126,000 vacancies, about 12% of the total nursing jobs in the country at that time. In Massachusetts, one out of every 10 nursing positions was unfilled, forcing hospitals to postpone nonemergency surgeries, close beds, turn away ambulances, and use temporary staff. One report found that this shortage contributed to nearly 25% of unanticipated problems that resulted in death or injury to hospital patients. The federal government and individual hospitals attempted to reverse this situation by funding nursing education, training, and recruitment.^{57,58}

GPOs Hospitals also joined group purchasing organizations (GPOs) to contain costs. GPOs were nonprofit organizations that allowed hospitals to secure discounts for large-scale purchases, centrally manage contracts, update pricing changes, and disseminate information from suppliers to member hospitals. GPO penetration of hospital supply spending was estimated as high as 72% to 80% for all nonpharmaceuticals and 85% to 90% for hospital pharmacy purchases. In addition to retaining an average of 3% of mediated purchases, GPOs earned revenue from dues from member hospitals, volume-based vendor rebates, transaction fees, and administrative cost savings generated by e-commerce processing.⁵⁹

GPOs leveraged their volume to negotiate substantial member discounts for products and services. There were approximately 600 to 700 GPOs in the United States, approximately half focused on acute-care hospitals. They ranged from small hospital groups (e.g., Sisters of St. Francis) to large organizations covering a majority of hospitals and products in the U.S. Premier, one of the largest GPOs, was owned by 200 nonprofit hospitals and serviced more than 1,400 hospitals. The other large GPO, Novation, managed the supply chain for University Hospital Consortium, an alliance of 87 academic medical centers, and VHA, a for-profit purchasing cooperative. It provided services to more than 2,400 hospitals and handled more than \$17.6 billion in purchases.

The primary GPO mission was to obtain the best prices for its members. Most buying groups solicited bids from companies. Suppliers were either placed “on contract” with preferred provider status or awarded a sole source contract as the exclusive supplier to a GPO. These awards were only as strong as the GPO’s ability to enforce compliance. Member hospitals received payments from the GPO in accordance with their percentage of on-contract purchasing. Some GPOs made it very cumbersome for a hospital to buy “off contract,” requiring detailed specifications and justifications. GPOs also used “bundles” of multiple products to obtain discounts and manipulated commitment levels and contract length to attract the best pricing.

In addition to discount pricing, GPOs reduced member costs by taking over the process of procurement, relieving members of the onerous task of researching and evaluating products and technologies. From the fees GPOs collected from vendors, they could often provide various procurement services at little or no cost to their members.

GPOs were not without their critics, however. They were accused of failure to notify vendors of contract bid cycles or evaluation periods, effectively shutting some vendors out of negotiations. Additionally, GPOs often used multiproduct discounts to limit the ability of smaller firms to compete on price and had little provision for making new technology available to their members. Some GPOs restricted member access to noncontracting vendors. Charges of graft and conflict of interests were also leveled at GPOs.⁶⁰

Rural hospitals Although the 2,200 U.S. rural hospitals were much smaller than most others, they fulfilled a broader function—serving not only as hospitals but often as the centers of health care in their communities. (The median rural hospital had 86 beds versus 186 at urban ones.) Rural residents were less healthy than their urban counterparts with substantially more physical inactivity and substance abuse.⁶¹

Rural hospitals served the 54 million people who lived in rural areas, in communities whose populations were typically poorer and less insured than others. When they were the sole providers of health care, rural hospitals could not turn away the uninsured. The financial situation of some rural hospitals was vulnerable. In 2000, 34% had negative net margins, and suffered disproportionately from worker shortages.⁶² Medicare adjusted their reimbursement for local wages, but the market for health care personnel was national. Experts believed that telemedicine could help some of these problems: “Telemedicine uses information and communications technology to provide health care services. A telemedicine network often connects multiple rural sites to a central hub, generally in a larger urban center. Teleradiology allows X-ray images to be sent electronically, telephones can be used to perform diagnostic tests, and video conferencing equipment can allow ‘face-to-face’ interactions between specialists and patients.” In 2000, there were 210 active programs.⁶³

Integrated delivery networks (IDNs) In the 1990s, many hospitals integrated vertically and horizontally to form IDNs, promising to deliver both economies of scale and broad-based, comprehensive health care as a result. Vertically integrated systems joined physicians and sometimes HMOs to hospitals. (Physicians frequently became salaried employees after their practices were purchased by hospitals.) Horizontally integrated systems typically resulted from hospital mergers in a geographic area.

Despite general support for IDNs, some experts questioned their economics and social impact. Because vertical integration was such a managerially challenging strategy, they doubted that IDNs could carry it off. Further, physicians whose practices were purchased lost an incentive for productivity and the strategies of HMOs and health care providers were antithetical. While HMOs wanted to limit the use of medical care, providers had the reverse agenda. They also noted that horizontal integration was primarily a financial strategy whose purpose was to strengthen the hand of hospitals in negotiating their rates with insurers, rather than an operational strategy to reduce costs.⁶⁴

By 2003, most vertically integrated IDNs lost significant sums on their physician and HMO ventures. Indeed, many of their HMO ventures were abandoned. Some IDNs even entered bankruptcy, such as Pennsylvania’s Allegheny Health Education and Research Foundation. The horizontally integrated IDNs demonstrated virtually no economies of scale. But they were typically successful in raising prices as oligopolists in their areas.⁶⁵ Attempts to rationalize clinical operations typically encountered political opposition from powerful physicians.⁶⁶

Nevertheless, some vertically and horizontally integrated hospitals appeared to be successful, such as California’s Kaiser, a vertically integrated system; the Geisinger multispecialty physician group, which successfully created an HMO; and Utah’s Intermountain Chain. Such successes, however, were characterized by a long, unique history and/or deeply shared values.

Threats to hospitals In 2003, attorney Richard “Dickie” Scruggs began filing lawsuits against U.S. nonprofit hospitals, charging them with unlawful actions with regard to the billing and collection practices of uninsured patients. Scruggs alleged that nonprofit hospitals discriminated against uninsured patients, charging them inflated fees and utilizing abusive collection tactics. Scruggs filed 68 lawsuits in 23 states. One suit was filed against the North Mississippi Medical Center (NMMC) and resulted in a tentative agreement. The NMMC agreed to provide free medical care for

patients with income of approximately \$18,000 (less than 200% of the federal poverty level). The hospital also agreed to provide discounted care to patients with incomes up to 400% of the federal poverty level. Past hospital patients who qualified for such discounts would be granted a refund.⁶⁷ In 2005, after many of his federal cases were dismissed, Scruggs announced his “second front” offensive to file more suits in state courts so that local jury members could weigh in on the decision-making process.⁶⁸

Physicians

There were over 717,000 professionally active doctors of medicine in the U.S. in 2002, most of whom practiced either in offices (71%) or hospitals (20%).⁶⁹ (See **Figure D** below.) In the past, doctors were primarily concerned about patient care, but twenty-first century physicians were also responsible for supervising other care givers, overseeing population care, and collaborating with hospital and payer administrators to reconcile clinical needs with financial constraints. Because of this expanded role and the cost-savings concerns, many doctors felt overworked and undersupported. They also worried about their diminishing discretion over their medical practice, as more and more intermediaries (such as gatekeepers and payers) reviewed and, sometimes, overrode their recommendations. Some physicians felt continuing significant cost control pressures from their hospital employers, whose financial “imperative for revenue and occupied beds compete[d] with physicians’ desire to treat on an outpatient basis.”⁷⁰

Figure D Number of Practicing Physicians, by Specialty, 2002

Specialty	Number of Practicing Physicians
Cardiovascular diseases	16,989
Dermatology	8,282
Gastroenterology	9,044
Internal medicine	96,496
Pediatrics	46,097
Pulmonary diseases	6,672
General surgery	24,902
Obstetrics and gynecology	32,738
Ophthalmology	16,052
Orthopedic surgery	18,118
Otolaryngology	8,001
Plastic surgery	5,593
Urological surgery	8,615
Anesthesiology	28,661
Diagnostic radiology	15,896
Emergency medicine	16,907
Neurology	9,034
Pathology (anatomical/clinical)	10,103
Psychiatry	25,350
Radiology	6,916
Other specialty	34,084

Source: *Health, United States, 2004*, National Center for Health Statistics, 2004.

Inflation adjusted physician income fell by 5% between 1995 and 1999. Primary care practitioners' (PCPs') income fell by 6.4%, while specialists experienced a 4% decline.⁷¹ Nevertheless, physicians continue to earn one of the highest U.S. incomes: an average of \$218,000 in 2003, with \$253,000 for specialists and \$161,000 for PCPs.⁷²

Physicians could be classified by the organization of their practice: (1) employed physicians, who lacked any ownership stake in their practice; (2) self-employed solo physicians, who owned their one-person practice; or (3) self-employed group physicians, owners of multiple-physician practices. In response to cost control pressures from managed care organizations, there was a sharp reduction in self-employment and an increase in group size throughout the 1980s and 1990s. Between 1983 and 1994, the proportion of employed physicians rose from 24.2% to 42.3%, while those self-employed in solo practices fell from 40.5% to 29.3%.⁷³

As this trend emerged, employed physicians began organizing themselves into a variety of groups to contain costs while retaining physicians' autonomy and professionalism. Their organizational forms ranged from single and multispecialty pure physician groups to independent-practice associations (IPAs) and integrated delivery networks, often affiliated with hospitals or insurers. In theory, physicians could gain three benefits from joining an organization: (1) technological efficiencies in the process of managing; (2) transactional efficiencies derived from better coordination among physicians and other health providers; and (3) market power in the form of negotiating leverage with payers and other providers competing for the same health dollars.⁷⁴ But the IDN model was problematic. It lost an average of \$75,000 per physician in 2001.⁷⁵

As shown in **Figure E**, persons over 65 years old used physicians much more often than others.

Figure E Visits to Physicians, by Age

Age	Number of Visits to Physicians		
	None	1 – 3	10+
<17	15.1	58.2	6.0%
45 – 54	15.0	43.4	15.8%
65 – 74	9.0%	34.5%	22.1%
75+	5.8%	29.3%	25.6%

Source: Large insurer annual meeting, private correspondence to Regina E. Herzlinger, September 2004.

Physician strategies Physicians responded to price pressures by (1) working with hospitals, (2) supplementing their income through relationships with drug companies, (3) radically changing their revenue model, and (4) contracting with physician practice management (PPM) firms.

Some physicians focused on defending their power and income through deeper involvement in decision making with hospital administrators. Where managed care pressure was weak, however, doctors were less interested in policy and administrative decisions.⁷⁶ Physicians who put their patients' care first were motivated to lie occasionally to hospitals and payers. For example, some physicians submitted diagnoses to secure insurance coverage for otherwise unreimbursable tests or procedures they deemed beneficial for their patients.⁷⁷

A second strategy was to supplement their incomes through financial relationships with drug companies. For many physicians, particularly specialists, these relationships came in the form of

consulting assignments or speaking engagements. Some physicians also participated in drug manufacturers' clinical trials. The companies typically paid fees for each patient recruited, which varied with ease of subject recruitment, anywhere from a few hundred dollars per patient, for a common ailment, to upwards of tens of thousands of dollars for a lesser-known disease. In the United Kingdom, it was not uncommon for a physician to earn an extra £15,000 each year for three hours of work per week.⁷⁸

A small but growing number of physicians joined "concierge" practices. These premium health care practices, sometimes dubbed as "personalized health care for the elite," limited their patients to a few hundred, compared with the several thousand seen by the average primary care physician. To compensate for lost volume, patients paid annual membership fees—usually between \$2,000 and \$4,000 for individuals and \$7,000 for families. In return, concierge physicians offered same day appointments, house calls, 24-hour access, comprehensive office visits, and other personalized services. Except for their yearly physicals, patients were responsible for all health costs administered by concierge physicians. Many of these doctors claimed that their limited patient load, lack of financial pressure, and ability to spend at least 30 minutes with each patient (versus 10 minutes for a typical doctor) rekindled their love of medicine also.⁷⁹

Some physicians joined physician practice management (PPM) groups, hoping to gain access to capital and business expertise. By 1998, 40 publicly traded and 138 private PPMs existed.⁸⁰ Some physicians sold their practices to the PPMs, while others signed management contracts with them, typically at a cost of 15%–20% of net income. In 1997, the public PPMs traded at a multiple of 25–28 times earnings versus a 20 multiple for the firms in the S&P 500 Index.⁸¹ They typically traded this stock for the physicians' practice, usually priced at six times annual earnings.⁸² If the multiple on the stock was greater than that placed on the physicians' practice, earning accretion was assured.

But many PPMs lacked the expertise needed to manage complex physicians' practices. As the *American Medical News* warned its readers:

PPMs often claim to have strengths in finance, law, marketing, information management and human resources areas in which medical groups often struggle. Don't take their word for it. Instead, insist on seeing these systems in operation and carefully question users regarding the advantages and disadvantages. To its chagrin, one group found that the PPM with which it had just affiliated did not have a top information officer available to them. The position had gone unfilled for more than a year.⁸³

By 2001, most PPMs had ceased operations. Former Wall Street high flyers such as MedPartners, Phycor, and PhyMatrix had disappeared. Most failed because of their inability to grow physician income. When this problem became clear, their stocks were no longer so highly valued and physicians no longer clamored to be acquired or managed.

Pay-for-performance Pay-for-performance initiative has taken hold in the health care industry. Medicare has instituted pay-for-performance measures in hospitals and has advised the nation's doctors to become familiar with the strategy. Standardized performance measures developed by providers, physicians, industry experts, are used to gauge quality of care. Financial payments are based upon performance. The goal is to create transparency within the health care system and also to improve quality of care for patients and providers. While pay-for-performance measures differ among payers, the measurements used generally include chronic care management, patient satisfaction, preventative care, and use of information technology. In addition to the CMS, the

Buyer's HealthCare Action Group, the LeapFrog Group, Integrated Healthcare Association, and Bridges to Excellence have all implemented such initiatives.^f

Medical technology suppliers Medical technology suppliers included manufacturers of drugs (both pharmaceutical and biotechnological), medical devices, and supplies. Together, these expenses accounted for \$213 billion in 2002.

Prescription drugs Prescription drug expenditures were a key factor in health care inflation for much of the 1990s. Average spending growth of 12.4% between 1990 and 2003 was almost twice that of overall health care spending. In 2003, this rate of increase slowed to 3.1%, down from 5.2% in 2002 and 5.4% in 2001—a slowdown attributable to an increased use of less expensive generic drugs, relatively lean new drug pipelines, and slowing in the growth of disposable income.^{84,85} (**Exhibit 6** ranks the 2003 leading drug manufacturers by sales.)

The reasons for the relatively high increase in the cost of drugs were unclear. The industry claimed that increased prices accounted for, at most, 7.5% of the annual increase from 1997–2002. A more complex therapeutic mix and increased use accounted for the majority of the increase.⁸⁶ Critics of the industry alleged, however, that excessive profiteering was the primary cause.

Biotechnology A subset of the drug manufacturing industry, biotechnology was composed of drug makers that used advanced technology, such as genetic engineering, to synthesize proteins, enzymes, antibodies, and other naturally occurring substances in the search for new treatment discoveries. Traditional pharmaceuticals, in contrast, were chemical compounds created in laboratories. In 2003, the top five biotechnology companies earned combined revenues of approximately \$14 billion, or about 37% of total industry revenues of approximately \$31.2 billion.⁸⁷ (**Exhibit 7** ranks the 2003 top biotechnology companies by operating revenue.)

Success in the industry carried substantial risk: for every 5,000 to 10,000 discoveries, only one drug ultimately received approval from the U.S. government's Food and Drug Administration (FDA).^g The FDA approved only 21 new drugs in 2003, for conditions such as HIV/AIDS, arthritis, cancer, Alzheimer's, heart disease, and schizophrenia.

Even after FDA approval, the chances of earning a profit were low. Less than one-third of marketed drugs achieved sufficient commercial success to recoup their research and development investments. But a drug maker that launched a "blockbuster drug" with \$1 billion in peak-year sales achieved huge financial rewards during the remaining (typically 8 to 10) years of its 20-year patent life.

After patent expiration, chemically equivalent generic drugs typically entered the market, driving down both demand and price for the branded innovator drug.⁸⁸ In 2003, generic drugs accounted for 54% of prescriptions filled, but a mere 9% of dollars spent on prescription drugs.⁸⁹ Standard & Poor's estimated a 20% growth rate for the generic drug market in 2005, stimulated by the loss of patent protection of many branded drugs.⁹⁰

Pharmaceutical companies spent \$30 billion and biotechnology firms \$20 billion⁹¹ on research and development in the hope that a few discoveries would evolve into profitable blockbuster drugs. Although the industry's research and development expenditures rose sharply between 1990 and

^f For more on P4P, see Regina E. Herzlinger and Seth Bokser, "Note on Accountability in the U.S. Health Care System," HBS Note No. 302-007, Rev. Augusts 2006 (Boston: Harvard Business School Publishing, 2001).

^g For more on the FDA requirement, see Regina E. Herzlinger, "ABC Pharmaceuticals, Inc.," HBS Case No. 193-168, Rev. August 2006 (Boston: Harvard Business School Publishing, 1993).

2001, productivity peaked in 1999 and tapered off in subsequent years. The 21 new drugs approved in 2003 involved an average cost estimated between \$600 million and \$800 million.⁹² For biotechnology companies, this number exceeded \$850 million.⁹³ (See **Figure G**.)

Figure G Pharmaceutical Research and Development Expenditures and Productivity, 1990–2003



Source: Pharmaceutical Research and Manufacturers of America; U.S. Food and Drug Administration.

One explanation for the productivity decline was that increasingly stringent FDA regulations prompted a lengthier R&D process. Average total drug development time increased from 8.1 years in 1960 and 11.6 in the 1970s to 14.2 in the 1980s and 1990s. Since 1980, the average number of clinical trials required prior to filing a new drug application more than doubled, and the number of patients in clinical trials tripled.⁹⁴

Large pharmaceutical companies traditionally avoided “orphan drugs” for rare diseases because eventual sales would be too small to justify their R&D expense (orphan drugs treat diseases with fewer than 200,000 victims, such as Lou Gehrig’s disease). More than 100 orphan drugs were marketed since the Orphan Drug Act was passed in 1983.⁹⁵ Small biotechnology start-ups pursued these discoveries because niche patient populations required smaller-scale, and therefore quicker, clinical trials, and orphan drug status granted seven years of market exclusivity after the drug was approved. These qualities helped biotechnology companies attract the venture capital necessary to support their R&D process.

The unraveling of the human genome in 2001 fundamentally altered the sector. Genetic variations cause many diseases and affect receptivity to and metabolism of drugs. Many predicted the onset of a new era of personalized medicine with drugs tailored to genetic structures.⁹⁶ New diagnostics could identify those with genetic disorders,⁹⁷ and the new science could lower the cost of clinical trials by pinpointing the people who could benefit from the drug and substantially enhance the cost effectiveness of the drugs.^h

^h For more on personalized medicine, see Regina E. Herzlinger and Marc Aquino, “Schering-Plough and Genome Therapeutics: Discovering an Asthma Gene,” HBS Case No. 303-044, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003); Regina E. Herzlinger and Mark Allyn, “Diagnostics Genomics,” HBS Case No. 302-004, Rev. August 2006

By 2003, there were some impressive accomplishments. Genentech's breast cancer drug, Herceptin, blocked a protein that triggered cancerous growth in the 25%–30% of women who have the gene.⁹⁸ Scientists also discovered the genetic markers for patients with less invasive skin cancer, women who do not respond to the standard ovarian cancer treatment, and those for diseases such as cystic fibrosis.⁹⁹ But there were substantial problems, too. The first was technical. As of 2003, the correlations between most genes and their effect on diseases or drugs were largely unknown. The second was managerial: most large pharmaceutical firms were organized to develop and market blockbuster drugs, not narrow niche ones. The third was economic. Some of the drugs were highly expensive. Genzyme's lead product to treat an enzymatic deficiency, for example, cost \$170,000 per person per year. The last hurdle was social. Some did not want genetic variations identified; some quarreled with their implications—for example, possible abortion of a fetus with disease markers; while others worried about the lack of precision of both diagnostic and therapeutics as the science evolved.

Sales channels Biopharmaceutical companies marketed to four sets of customers: payers, such as insurance companies; buyers, including physicians, clinicians, and nurses who selected the product; consumers who used the product; and dispensers, such as pharmacies and pharmacy benefit managers (PBMs).

For branded prescription drugs, physicians were traditionally the key customers. Most pharmaceutical companies preferred to sell new drugs directly to physicians to retain control of pricing and hedge against commoditization. On the generic side, group purchasing organizations were often a more important customer set. The number of sales representatives employed by pharmaceutical companies in the 1990s grew dramatically due to the number of new products recently introduced and increased marketing competition.¹⁰⁰

Pricing in the United States varied widely within specific markets but was primarily determined by the relative competitive efficacy of a drug versus its rivals, size of its market, competitive landscape, and costs incurred in the drug's development. Although most drugs were priced at levels akin to those of similar established ones, prices for breakthrough therapies for life threatening conditions were usually set substantially higher. Large-scale buyers typically paid below list price as a result of volume discounting. Drugs sold to wholesale distributors and pharmacy chains for the individual physician/patient market were priced at the higher end of the scale. Single-payer, government-controlled health care systems in Canada, Europe, and Asia limited how much drug makers could charge for their products and new drugs were usually priced within parameters set by similar drugs already on the market.¹⁰¹

The Medicare Prescription Drug Improvement and Modernization Act (MMA) of 2003 included self-administered prescription drug coverage, beginning in 2006. Its overall cost, initially estimated at \$400 billion over the next ten years was later amended to \$534 billion. Seniors enrolled in one of many Medicare-approved discount drug cards for an average annual fee of \$27 (some cards had a lower annual fee, others none). The card offered savings of 16%–30% off retail prescription drug prices—and 11.5%–17% off average retail prices on brand name prescription drugs and significantly larger savings on mail order and generic prescription drugs—30%–60%. The discount drug cards were voluntary; low income seniors could apply for a \$600 credit on their Medicare approved drug

(Boston: Harvard Business School Publishing, 2001); and Regina E. Herzlinger, "EXACT Sciences Corp.: Commercializing a Diagnostic Test," HBS Reprint No. 305-072, Rev. August 2006 (Boston: Harvard Business School Publishing, 2006).

ⁱ For more on this topic, see Regina E. Herzlinger, "I've Got Rhythm: Selling Cardiac Rhythm Management Devices," HBS Case No. 304-012, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003).

cards. The pilot programs in the Medicare bill included a \$500 million dollar two-year six-state effort for a minimum of 50,000 patients which will cover a limited category of self-administered drugs.

The most controversial items in the Bill included the reliance on competing pharmaceutical prescription benefit managers, rather than the Federal government, to control the cost of drugs. Some members of Congress and health care analysts characterized the bill as a boon for the drug industry: Deutsche Bank noted that it would spur a significant increase in volume for the drug industry and estimated increased profits of \$10 billion.¹⁰² Senator John McCain, R-Arizona, among others, found fault with the Medicare Bill's prohibition of reimportation of prescription drugs from Canada, and its barring of Medicare's negotiating lower prices from pharmaceutical companies.

Pharmacy benefit managers (PBMs) Intermediary purchasers hired by payers to reduce prescription drug costs for their members helped lower drug costs through the following.^j

- Formularies, lists of preapproved drugs thought to provide the highest benefit relative to cost.
- Prior authorization requirements before patients were covered for costly drugs.
- Therapeutic substitution of the PBMs' recommended alternatives for prescribed drugs not included in their formularies.
- Generic substitution by requiring higher copayments for brand name drugs.
- Mail order pharmacy services, which operated at lower cost than traditional retail pharmacies.
- Disease management, the practice of following prespecified protocols for the treatment of specific chronic conditions.
- Drug utilization reviews, which tracked patient use and physician prescribing behavior to identify substitutable high-cost behaviors.
- Manufacturer rebates awarded by pharmaceutical companies to PBMs that help increase a drug's market share.
- Retail pharmacy discounts whereby PBM network pharmacists accepted lower reimbursement rates in exchange for increased customer volume from network participation. While PBMs drove low-priced, high-volume business to a network of retail pharmacies, they also reduced the market share of their traditional retail counterparts.^{103,104}

There were, however, many concerns about PBMs, including confidentiality, disclosure of information to patients, and the HMOs' own oversight of the PBMs' performance. HMOs relied primarily on PBM-supplied data and reports for overseeing their PBMs' performance.¹⁰⁵ Last, there were concerns about the effects of sizable manufacturer "rebates" to the PBMs on their formulary recommendations.

Threats The following market pressures threatened the biopharmaceutical industry's financial security.

- Increased FDA testing requirements and post-marketing surveillance raised the expense associated with the drug development process and the likelihood that approved drugs could be pulled from the market. The September 2004 recall of Merck's Vioxx – a pain medication that increased cardio-vascular risks – demonstrated the risks inherent in the pharmaceutical

^j Regina E. Herzlinger, Miguel Abecasis, and Brenda Cheng, "Cardinal Health (A): The Medicine Shoppe Acquisition" HBS Case No. 303-043, Rev. August 2006 (Boston: Harvard Business School Publishing, 2002).

industry. Vioxx generated sales of \$2.5 billion in 2003, accounting for approximately 11% of Merck's total sales, and was used by 20 million people worldwide.¹⁰⁶ Merck's stock price fell 30% in the months after the recall. Standard & Poor's estimated that Merck's future earnings would be diminished by 15%, and its future legal bills could amount to as much as \$10 billion. In the wake of the Vioxx catastrophe, an article in the *Journal of the American Medical Association* stated that the FDA should not be involved in post market monitoring and suggested that an independent regulatory body be created for such regulation.¹⁰⁷

- Biotechnology companies emerging as vertically integrated drug companies in their own right provided new competition for large pharmaceutical companies.
- Managed care providers, group buying organizations, and PBMs pressured drug companies to lower their prices. Biotechnology developed drugs, however, were less susceptible to cost-containment pressures because they tended to be used in critical situations with few, if any, treatment alternatives. Therefore, physicians had less choice in deciding what to prescribe, and managed care companies had less leverage in negotiating reimbursement rates.
- Traditionally, price pressure from the U.S. government had primarily targeted biotechnology firms, whose drugs were infused by the physician and thus subjected to Medicare payment.

Strategies Biopharmaceutical firms responded to these pressures with defensive strategies related to their (1) R&D budgets, (2) consolidation, (3) drug patents, and (4) marketing. **Figure H** offers market data on U.S. prescriptions drugs by use.

R&D budgets were managed through tactics such as licensing, improved clinical research management, and consolidation. Licensing drugs for distribution from other firms enabled drug makers to bolster their development pipelines without investing in in-house discovery and exploit biotechnology innovations that complemented their existing products. But, because licensing fees were trending upwards, experts wondered whether this strategy could remain viable for the long term.^{k,108}

Biopharmaceutical firms also attempted to decrease their R&D costs by better managing the clinical research process—the most expensive, resource-intensive, and publicly scrutinized step in drug development. More than half of all U.S. clinical trials from 1993 to 1998 missed their deadlines by at least one month, draining some of the profitability potential of new drugs. Such delays could cost pharmaceutical firms up to \$800,000 a day in lost sales for a niche medication and as much as \$5.4 million per day for a blockbuster. Some of this revenue could be recouped once a drug hit the market but millions of dollars were at risk if a competitor caught up or gained advantage with an earlier debut.^{109,110}

Finally, drug firms also managed R&D costs by consolidating with competitors. They believed that larger size (1) led to a higher incidence of blockbuster drugs, (2) increased the sums they could spend on new technologies, (3) increased their desirability as a licensing partner, and (4) strengthened sales through a combined sales force.¹¹¹ As a result of substantial merger activity, the market share of the 10 largest pharmaceutical companies increased from 26% to 46%.¹¹² However, industry experts began questioning the benefits of these megamergers and whether their integration costs overshadowed their savings.

^k For more on licensing, see Regina E. Herzlinger and Keyne Monson, "Immusol and Novartis," HBS Note No. 303-038, Rev. August 2006 (Boston: Harvard Business School Publishing, 2002).

Figure H Prescription Drugs by Use

Central Nervous System	22%
Cancer, Endocrine	16%
Gastro-Intestinal	14%
Respiratory	13%
Infections	12%
Cardio-Vascular	11%
Dermatology	3%

Source: Standard & Poor's; Casewriters analysis.

Patents Pharmaceutical firms also responded to financial pressures by closely managing their drug patents. The industry's incentive for innovation was secured by intellectual property rights granted in a 20-year prescription drug patent. But, at the completion of required FDA studies, typically only 8 to 10 years remained in a drug's legal market exclusivity, at which time generic drugs were likely to appear, drastically eroding the profitability of the branded drug. Some firms reduced this risk with changes to their product (e.g., in dosage size or form) that enabled them to extend the patent life.

Over-the-counter (OTC) Drug companies also often petitioned the FDA to permit their prescription drugs to be sold over-the-counter (OTC) upon patent expiration. Such approval entailed the start of a new patent that kept competitors out of the market for an additional three years. While OTC drugs were priced lower than their prescription versions, a drug's newfound ability to reach a broad nonprescription market in the absence of competition allowed its manufacturer to continue deriving revenue from it. Between 2002 and 2006, over 40 major prescription drugs, accounting for over \$40 billion in sales in 2001, were scheduled to lose patent protection.¹¹³ In 2005, an FDA panel rejected a proposal by Merck & Co. and Johnson & Johnson to sell 20 mg tablets of Mevacor (Iovastatin) as an over-the-counter drug. Panel members noted faults within the trial that involved 3,000 participants which demonstrated that patients often took the drug improperly. It also noted that there were risks for certain groups, for example, women taking the drug who are pregnant or could become pregnant. This proposal marked the second attempt by Merck and Johnson & Johnson to gain approval in a joint marketing effort.

Direct-to-consumer (DTC) Pharmaceuticals also countered cost containment pressure by investing in marketing to consumers and physicians. Spending on direct-to-consumer (DTC) pharmaceutical advertising topped \$2.8 billion in 2001, up from \$55 million in 1991. DTC advertising seemed to pay off. One study found that 20% of U.S. consumers agreed that DTC advertising prompted them to call or visit their doctor to discuss advertised drugs.¹¹⁴ In addition, many Americans conveyed a desire to switch physicians if their requests for an advertised drug were refused.¹¹⁵ Consumer advocates, however, warned of the misconceptions that could result from DTC drug advertising. One study revealed that many people incorrectly believed that only the safest and most effective drugs could be advertised directly to consumers and that the FDA reviewed and

approved marketing messages before they were permitted to run. But the FDA was considered by some as understaffed for this function.^{l,116}

In any case, the bulk of industry marketing efforts were directed toward physicians, who ultimately wrote the prescriptions. In 2001, U.S. pharmaceutical firms “spent an estimated \$4.8 billion on sales personnel calling on physicians, more than \$2 billion on conferences, seminars, and other physician-oriented events, and over \$10 billion in drug samples distributed free to physicians.”^{m,117} The industry tried to respond to public policy pressures by donating drugs to the needy in the U.S. Merck and others were also involved in an extensive program in Botswana to distribute HIV/AIDS drugs. But it insisted that high profits were crucial for reinvestment in risky research and development.

Medical devices and supplies The U.S. market for medical devices and supplies was valued at \$75 billion in 2003.¹¹⁸ High-technology medical devices were designed for specific diagnostic and therapeutic markets, such as implantable and external cardiac defibrillators, orthopedic devices, and diagnostic imaging systems.ⁿ They usually commanded premium prices and high margins. Medium-technology medical devices, such as catheters, were older and considered more as commodities.

Medical supply companies, on the other hand, operated in a mature industry, composed primarily of commodity items including intravenous products, anesthesia items, surgical apparel, and other conventional diagnostic and therapeutic products. In contrast with the higher-tech device market, the supply market was characterized by low margins and high volume, with most sales via long-term contracts with hospital chains and other large customers.¹¹⁹

The most profitable medical device companies averaged annual revenue growth of 23% from 1991 to 2001, in contrast with 7% for medical supply companies. Gross margins were also fairly stable in these industries, at 69% for device companies and 54% for supply firms.¹²⁰ Some medical products companies, such as Abbot Laboratories, Baxter International, Inc., and Johnson & Johnson, were leaders in both industries, but most of the industry was dominated by a relatively small number of focused firms. (**Exhibit 8** lists 2003 product sales by leading medical device and supply companies.) **Figure H** illustrates Standard & Poor’s projected \$35 billion 2005 U.S. medical device sales, broken down by disease category.

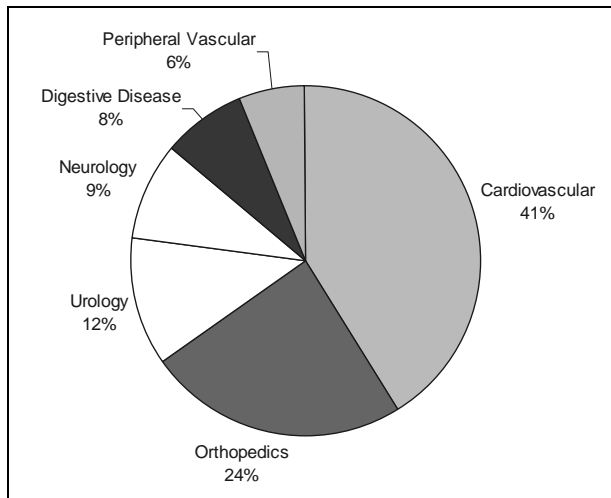
Like biopharmaceutical firms, medical device and supply manufacturers faced economic, regulatory, and legal challenges.

FDA Economically, medical products, especially high-tech devices, required extensive R&D and FDA testing. Because device innovations were typically more incremental than those in drugs and grounded in better understood science, they required R&D costs of tens of millions, rather than hundreds of millions. Further, the FDA permitted manufacturers a relatively simpler approval route—known as the 510k—if they could demonstrate that their innovation was based on a predicate technology.¹²¹

^l For more on this topic, see Regina E. Herzlinger and Alfred Martin, “Helios Health (A),” HBS Case No. 302-022, Rev. August 2006 (Boston: Harvard Business School Publishing, 2001).

^m For more on this topic, see Regina E. Herzlinger, “I’ve Got Rhythm: Selling Cardiac Rhythm Management Devices,” HBS Case No. 304-012, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003).

ⁿ For more on this topic, see Regina E. Herzlinger and Mark Allyn, “Medtronic: Patient Management Initiative,” HBS Case No. 302-005, Rev. August 2006 (Boston: Harvard Business School Publishing, 2001).

Figure H U.S. Medical Device Sales, 2005

Source: Adapted from Standard & Poor's, 2003.

GPOs Group purchasing organizations (GPOs) and other large hospital supply purchasing collectives created another economic challenge for medical device and supply firms, particularly smaller suppliers trying to enter new markets. Many public policy makers supported the contention that GPOs abused their market power by creating barriers to entry for “unfavored” suppliers. They felt the very “aggregation of volume . . . critical to the ability of GPOs to bargain on behalf of hospitals to deliver lower prices to members . . . [gave them] too much influence” to block small would-be rivals without the powerful sales forces and scale advantages of the larger device manufacturers. This debate climaxed in 2003 when public and political pressures finally pushed GPOs to revamp their strategies and operations to avoid the conflicts of interest that could lead to supplier favoritism.¹²²

Reimbursement A third economic hurdle for medical products manufacturers was reimbursement from payers. Managed care buyers influenced an estimated 60% of all medical device purchases in the U.S., a level expected to surpass 80% by 2005. In turn, cost containment pressures were high. As with prescription drugs, medical devices or supplies deemed unnecessary, excessively experimental, or not cost effective were often denied reimbursement from payers, despite undergoing resource-consuming market-approval tests required by the FDA. CMS also frequently delayed coverage and minimized payment for new devices. Medicare waited a year after clinical trials demonstrated that implantable defibrillators caused a 31% reduction in deaths when compared with patients treated only with drugs, to cover them. These high-tech \$25,000 devices could prolong lives for up to seven years. Absent Medicare’s coverage some of those who could not afford to pay out of pocket may have died prematurely.

Yet, positive coverage decisions still did not assure beneficiaries access. If Medicare set inadequate DRG and physician prices providers lost money. The \$12,800 DRG to implant a drug-eluting stent that prevented relogging of an artery, for example, eliminated margins for commonly performed

multiple blood vessel procedures. In 2003, providers sometimes implanted these stents as a charitable act.^o

Patients Medical device and supply firms faced additional barriers related to patents. More than 75,000 medical device patents were filed with the U.S. Patent and Trademark Office between the 1970s and early 2000s. Like drug patents, device patents were awarded for technology, invention, and improvement of existing products. Because medical device patents were less groundbreaking than their drug counterparts, there was substantially more patent infringement litigation between competitors. Medical device and supply companies relied less on patents than drug makers because new devices were usually developed before patents on existing devices expired. For example, breakthrough pacemakers and angioplasty catheters were given 17-year patents but technological advancements quickly made the original products obsolete.¹²³

Another legal challenge to the medical device industry was its exposure to product liability claims. In 1996, the Supreme Court ruled that device makers could be sued for injuries, even if the FDA approved the product for safety and efficacy. Although most companies protected themselves with product liability insurance, the costs were high, especially for firms with implantable devices, such as pacemakers or orthopedic implants.

Strategies Medical device and supply manufacturers responded to economic pressures through technological innovation and establishing networks of their own. Technological innovation enabled many manufacturers to command price premiums, despite cost containment pressures from payers. These high prices were offset by reductions in the long-term patient treatment and rehabilitation costs that resulted from their use. Some also joined Internet-based medical product auction Web sites, where customers gained full transparency about product offerings and pricing by manufacturers. Such ventures enabled many medical device and supply manufacturers to ensure that suppressed prices could be partially offset by increased shipment volumes. For example, GHX, or Global Healthcare Exchange, www.ghx.com, was a centralized Web-based sales service co-owned and managed by the leading medical device manufacturers.

Merger and acquisition activity was frequent in the industry. In 2003, for example, Zimmer, a \$2.6 billion U.S. orthopedic firm succeeded in its exchange offer for CenterPulse AG; and, in 2004, Boston Scientific acquired Guidant for more than \$25 billion.

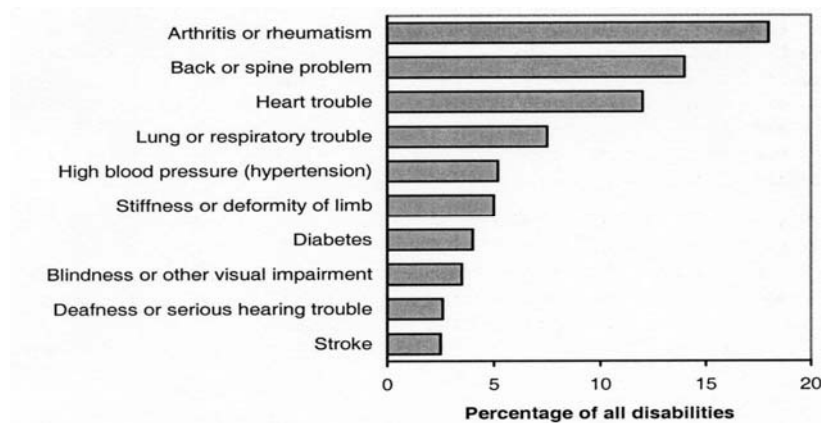
Patients

An estimated 125 million Americans lived with a chronic condition in the early 2000s—a persistent, activity-limiting, typically incurable ailment that required long-term care. By 2030, this figure was expected to rise to 171 million. While many chronic conditions were endemic to specific age groups (e.g., asthma in children or arthritis in older people), 37% of all working age Americans had at least one chronic condition, and almost half of this group suffered from two. The more chronic the conditions a patient had, the more costly and complex their care. Two-thirds of all Medicare spending was for the 20% of program beneficiaries with five or more chronic conditions.¹²⁴ On average, direct spending for people with chronic conditions ranged from \$6,032 to \$16,000 per year, depending on how much assistance they needed with daily living activities. Treatment of chronic conditions cost over \$650 billion per year in direct and indirect (i.e., loss of productivity) costs.¹²⁵

^o For more on this topic, see Regina E. Herzlinger, JoEllen Slurzberg, and Mark Allyn, “Note on Health Insurance Coverage, Coding, and Payment,” HBS Note No. 304-005, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003).

Chronic conditions were a leading cause of disability, as illustrated in **Figure J**.

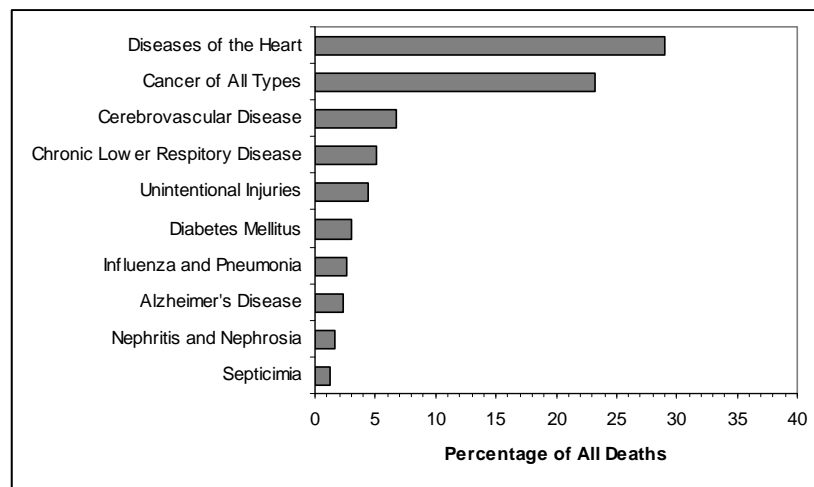
Figure J Leading Causes of Disability Among Persons Aged 15 Years or Older, U.S., 1991–1992



Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

And, over 70% of the approximately 2.4 million Americans who died each year did so from a chronic disease.¹²⁶ **Figure K** illustrates the most common causes of death in the United States in 1999.

Figure K Most Common Causes of Death, 2002



Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.

The Centers for Disease Control identified the following risk factors as associated with a higher prevalence of chronic disease:¹²⁷ smoking and other forms of tobacco use; eating high-fat and low-fiber foods; not engaging in enough physical activity; abusing alcohol or other drugs; not using proven medical methods for preventing disease or diagnosing disease early (i.e., flu shots, Pap

smears, etc.); and engaging in violent behavior or behavior that might cause unintentional injuries (e.g., driving while intoxicated).^P

Those with chronic conditions accounted for a disproportionate share of cost increases (see **Figure L**).

Figure L Percentage of Total Change in Health Care Spending Accounted for by the Fifteen Most Costly Medical Conditions, 1987-2000

Condition ^a	Treated prevalence Per 100,000		Spending (millions of dollars)	
	1987	2000	1987	2000
Heart disease	6,189	6,226	30,450.1	56,678.6
Pulmonary conditions	10,389	15,526	11,684.5	36,476.5
Mental disorders	4,373	8,575	9,935.8	34,439.1
Cancer	2,862	3,348	21,167.5	38,901.8
Hypertension	9,734	11,382	8,008.6	23,394.5
Trauma	17,866	12,338	26,527.6	41,124.2
Cerebrovascular disease	410	854	3,859.8	14,938.8
Arthritis	5,479	6,966	7,403.5	17,686.3
Diabetes	2,961	4,260	8,661.1	18,287.9
Back problems	3,400	5,092	7,964.6	17,451.0
Skin disorders	6,754	7,990	4,758.0	12,044.5
Pneumonia	1,537	1,370	5,437.6	12,641.3
Infectious disease	6,588	5,841	3,658.0	9,849.5
Endocrine	5,515	7,322	5,247.8	10,276.9
Kidney	675	908	4,938.1	8,169.5
Total	–b	–b	159,702.6	352,360.5

Source: 1987 National Medical Expenditure Survey (NMES) and 2000 Medical Expenditure Panel Survey, Household Component (MEPS-HC).

Note: Our coding procedure may overstate spending for some medical conditions in 1987 and 2000 because of the possibility of double-counting.

^a Changes in spending on all conditions is significantly different at the .05 level, except kidney disease, at the .10 level.

^b Not applicable.

Source: Ken E. Thorpe, Curtis S. Florence, and Peter Joski, "Which Medical Conditions Account for the Rise in Health Care Spending?" *Health Affairs*- Web Exclusive, 25 August 2004.

The prevalence of obesity was of particular concern, as the number of obese adults in the United States grew by more than 50% over the past generation. Obesity and its attendant sedentary lifestyle resulted in an estimated 300,000 premature deaths annually, a toll second only to that caused by

^P For more on this topic, see Regina E. Herzlinger and John McDonough, "Battle of the Bulge: Private and Public Solutions to Obesity (A), HBS Case No. 304-009, Rev. July 2006 (Boston: Harvard Business School Publishing, 2003).

smoking. Overweight and obesity were major factors in four of the 10 leading causes of death in the United States: heart disease, stroke, cancer, and diabetes. Obesity also led to breathing problems, such as sleep apnea and asthma; arthritis (every two-pound increase in weight increases the risk of developing arthritis by an estimated 9% to 13%); reproductive complications, such as menstrual irregularities, high maternal blood pressure, gestational diabetes, and increased risk of birth defects; gallstones and gallbladder disease; bladder-control problems; and limited mobility and physical endurance. The annual costs of medical treatment for obesity alone were nearly \$100 billion.^{128,129,130}

Many researchers concluded that continuity of care and coordination across patients' physicians, hospitals, and other care providers were key to improving the medical, emotional, and financial outcomes of chronic diseases. Yet, such collaborative care programs were rare, primarily because they ran counter to the fragmented nature and reimbursement of the complex health care industry. When Duke Medical Center instituted an integrated program for congestive heart failure, it lowered the cost of care by more than \$8,000 in only one year. Patients' health status improved substantially and they no longer needed such extensive use of Duke's hospital. As a result of lowered hospital utilization, Duke lost virtually all the savings it created. The U.S. reimbursement system, therefore, compensated providers for treatment and not for health improvement.⁹

But critics of a case management approach to patient care worried that collaboration would (1) generate additional costs in helping patients navigate the complicated health care industry, (2) create confusion among managed-care companies with separate and unrelated contracts with each health care provider, and (3) result in no cost savings or other economic benefits.¹³¹ The benefits of a health promoting program paid for by one employer might accrue to the patient's next employer if he or she switched jobs.

Strategies Concerns about losing their employer-based health insurance coverage caused 25% of Americans surveyed in 2002, up from 17% in 1993, to stay in a job longer than they otherwise would have. In response to financial uncertainty, 44% of survey respondents claimed to have done at least one of the following: postponed seeking medical care (22%), experienced problems paying bills (21%), settled for lesser quality health care (15%), forgone filling a prescription drug (13%), been contacted by a collection agency (12%), forgone medical care (10%), and tried unsuccessfully to purchase insurance (8%).¹³² As many as 18,000 Americans died prematurely each year as a result of delaying treatment due to a lack of health care coverage.¹³³

Yet, Americans had access to more information than their counterparts a generation ago, in large part due to the Internet. Nearly 100 million U.S. adults (63% of U.S. Internet users) used the Internet each month to search for health care information.¹³⁴ Direct-to-consumer marketing also made consumers more aware than ever about brand name drugs. Misinformation and fraud were monitored informally by independent organizations such as Quackwatch, Inc., a "nonprofit corporation whose purpose [was] to combat health-related frauds, myths, fads, and fallacies" by investigating questionable claims, answering inquiries, distributing reliable publications, and fighting misleading health-related advertising on the Internet.¹³⁵

Many employers bolstered the quality of their employees' care. Value-based purchasing efforts required insurance companies to compete for employers' business not only on price, but also on the quality of their hospital/physician networks and coverage. Most often, however, data on clinical quality were not used to make insurance plan decisions or ultimately shared with the firms' employees. Many employers simply felt that "despite the myriad of acronymic efforts to fill the

⁹ For more on the topic, see Regina E. Herzlinger, Kaushik Sen, Alex Tkachenko, and Carolyn Wolff, "Salick Cardiovascular Centers: Business Plan," HBS Case No. 304-007, Rev. August 2006 (Boston: Harvard Business School Publishing, 2003).

quality information vacuum . . . not much of the available quality information was relevant to their decision making.”^{136,137}

Some employers took additional steps to ensure quality care after contracts with insurers were signed. One such pilot program worked through a nonprofit organization called Bridges to Excellence that included Procter & Gamble, Humana, Ford Motor Company, General Electric, UPS, Verizon, and other large firms in partnership with the Robert Wood Johnson Foundation. It rewarded individual doctors for quality care to these employees. Physicians were paid per patient, with quality diabetes care priced at \$100 and overall quality improvement at \$55 per patient.¹³⁸

Several public policy efforts also sought to promote increased quality in chronic care management. Proposed initiatives included creation of public long-term care insurance and tax breaks for unpaid caregivers and those who purchase private long-term health insurance.¹³⁹ Additionally, Medicare began pilot testing ways to measure quality of care in physicians' offices. Such data would most likely be used for internal quality improvement efforts rather than patient education.¹⁴⁰

The Decision

After reviewing the complex structure of health care delivery and the role of nonprofit organizations within it, Janson needed to decide whether or not New Sector Alliance should forge ahead in this market.

Several opportunities for applications of business skills seemed apparent. For example, large organizations, especially in the hospital and insurance sectors, were not organized in chains as were their for-profit counterparts. Organizations such as GPOs had seemingly failed to bring the economies of scale of a chain to their member hospitals. Creating efficiency was a core business skill, but could New Sector Alliance really help these mammoth hospitals and insurers to achieve it? Would leaders be open to progressive ideas and demonstrate the interest and commitment necessary to engage a student-led consulting team? Another area that required business skills was helping people with destructive lifestyles to modify them. Businesspeople with a marketing background could clearly help here. They also could assist health care organizations to create the systems that increased their accountability and the job satisfaction of their physicians and nurses. But, such organizations regularly used large consulting firms to address some of these issues.

Instead, she could focus on nonprofit organizations that tried to address social needs in the U.S. health care system. But here she was concerned that the magnitude of the problem was so large that New Sector Alliance team members would feel frustrated by their inability to make a dent in it. Many of these shortcomings seemed to require government action. What impact could teams of people with business skills have? The last thing Janson wanted to do was jeopardize New Sector Alliance's reputation among its current and potential student consultants. Further, existing excellent organizations already filled many needs. (See **Exhibit 10** for background.)

Nevertheless, several areas in the U.S. health care system clearly needed improvements from a social perspective but which, if any, should she approach?

¹ For more on the topic, see Regina E. Herzlinger and Seth Bokser, “Note on Accountability in the U.S. Health Care System,” HBS Note No. 302-007, Rev. August 2006 (Boston: Harvard Business School Publishing, 2001).

Questions

1. How well does each part of the structure of the U.S. health care system listed below align with the forces of financing, consumers, accountability, and public policy? ^s Identify the opportunities that lack of alignment creates.
 - Hospitals
 - Physicians
 - Nursing shortage
 - Uninsured
 - Underinsured
 - FDA clearance process for medical technologies
 - Personalized medicine
 - Chronic diseases
 - Destructive lifestyle habits
 - Lack of accountability
2. Evaluate New Sector Alliance's strengths and weaknesses relative to the other organizations listed in **Exhibit 9** that can help to fulfill the areas of opportunity you identified.
3. What criteria should Janson use to evaluate the areas of opportunity listed in question 1?
4. Prioritize these areas of opportunity, with 1 = must do and 3 = low priority.
5. Should New Sector Alliance enter the health sector? If yes, delineate a time-phased plan for the areas you recommended.

^s For more on these forces, please see Regina E. Herzlinger, "Innovating in Health Care—Framework," HBS Case No. 306-042, Rev. July 2006 (Boston: Harvard Business School Publishing, 2005).

Exhibit 1 New Sector Alliance Programs

Academic Year Program Each Academic Year team was composed of three to five MBA, other graduate, and/or undergraduate student team members who worked as “Associates” and “Analysts” and invested approximately 8 to 12 hours in the project each week. The teams were supported by four project liaisons: a **client sponsor**, a nonprofit executive representing the senior leadership of the client organization, typically the executive director or president; a **faculty sponsor**, a faculty member offering project supervision, informal guidance, and course credit through the partner institution; a **project advisor**, a partner (or senior-level engagement manager) from a partner consulting firm responsible for meeting with the team at least three times over the course of the engagement to help define the project scope and prepare for the interim and final client presentations; and a **project coach**, an experienced, post-MBA level strategy consultant responsible for meeting with the team for about 2 hours weekly to advise on major client issues and provide training on key consulting frameworks relevant to the project.

Clients paid fees to cover a portion of program costs.

Summer Program New Sector’s Summer Program ran for 10-12 weeks, whereby graduate student Associates and undergraduate Analysts worked full-time on-site at nonprofit client organizations to strengthen their effectiveness. Summer students were also supported by client and faculty sponsors, as well as by advisors and coaches from private sector consulting firms. To date, the Summer Program had largely been staffed by Harvard and Stanford MBA students, between their first and second years, who worked directly with nonprofit leaders on 10 to 12 week summer engagements. Summer Associate Program teams received training and similar support to Academic Year teams but worked full-time at the client site.

The Summer Associate Program was sponsored in conjunction with Harvard Business School’s Social Enterprise Summer Fellowship Program and the Stanford Management Internship Fund (SMIF) at the Stanford Graduate School of Business (GSB). In 2003, most students were paid approximately \$1,200 per week—approximately the median salary of their classmates—50% covered by the client and the other 50% funded by HBS. SMIF funded GSB students for the difference between the employer’s contribution and a targeted income level of \$1,250 per week, representing approximately 83% of median weekly salary of for-profit summer internships.

Custom Consulting New Sector Alliance was piloting a third, custom consulting service offering, designed to meet specific needs of nonprofit client organizations. One project, for example, involved Microsoft Community Affairs and WorldLinks (www.worldlinks.org), an international development nonprofit spun out of the World Bank. Through this six-month engagement, a team of five New Sector Alliance consultants developed a business plan for creating a worldwide network of Community Technology Learning Centers. New Sector Alliance hoped that these engagements would develop into a sustainable new service whose revenues could help subsidize its operations and other initiatives over the long term.

Exhibit 2 Personal Health Care Expenditures by Type of Expenditure and Source of Funds: 2003 (in billions)

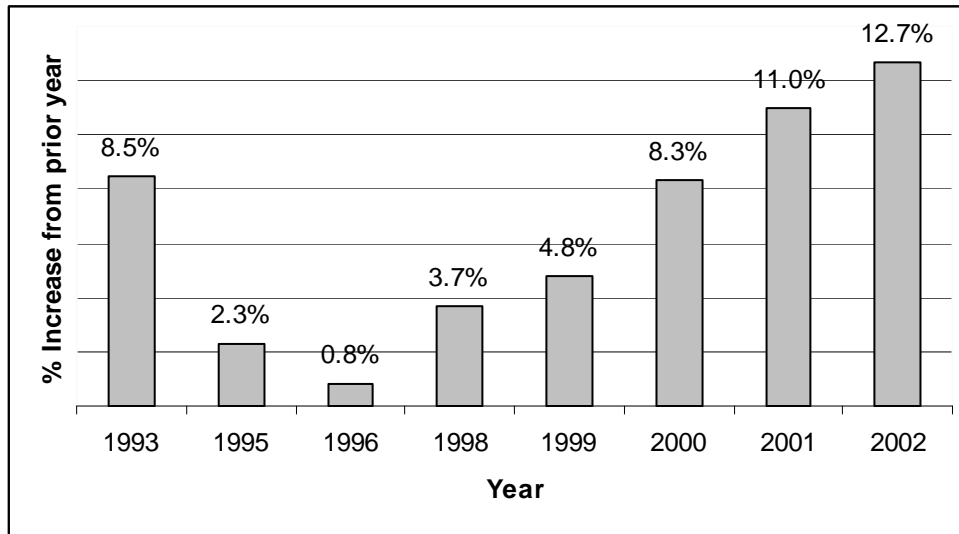
	Total	Hospital Care	Physician and Clinical Services	Dental Services	Other Professional Services	Home Health Care	Prescription Drugs	Other non- durable medical products	Durable Medical Equipment	Nursing Home Care	Other Personal Health Care
Personal Health Care Expenditures	1,440.80	515.9	369.7	74.3	48.5	40.0	179.2	32.5	20.4	110.8	49.5
Out-of-Pocket Payments	230.5	16.3	37.6	32.9	13.3	6.6	53.6	30.7	9.0	30.9	0.0
Third-Party Payments	1,210.30	499.6	332.1	41.4	35.2	33.4	126.1	1.7	11.4	79.9	49.5
Private Health Insurance	518.7	177.4	183.6	36.5	18.8	7.3	82.9	0.0	3.8	8.5	0.0
Other Private	60.00	21.3	25.5	0.0	2.8	1.2	0.0	0.0	0.0	0.0	0.0
Public	631.5	300.8	123.0	4.9	13.6	24.9	43.2	1.7	7.6	67.3	44.6
Federal	479.80	242.1	101.3	2.9	8.8	18.6	25.2	1.7	7.4	45.5	26.3
Medicare	274.9	156.4	73.8	0.1	6.9	12.9	2.8	1.7	6.6	13.7	0.0
Medicaid	147.10	52.6	15.8	2.3	1.5	5.5	19.9	0.0	0.0	29.5	20.0
Other ^a	57.8	33.0	11.7	0.5	0.4	0.2	2.5	0.0	0.8	2.3	6.3
State and Local	151.70	58.7	21.7	1.0	4.8	6.3	18.0	0.0	0.2	21.8	18.3
Medicaid	101.4	34.4	10.4	1.7	1.0	4.4	13.7	0.0	0.0	21.6	14.2
Other ^a	50.30	24.3	11.4	0.2	3.8	1.9	4.2	0.0	0.2	0.2	4.0

Source: Centers for Medicare & Medicaid Services, Office of the Actuary, National Health Statistics Group.

^a Includes Medicaid SCHIP Expansion and SCHIP.

Notes: The figure 0.0 denotes amounts less than \$50 million. Medicaid expenditures exclude Part B premium payments to Medicare by states under buy-in agreements to cover premiums for eligible Medicaid recipients. Numbers are rounded.

Exhibit 3 Increases in Health-Insurance Premiums, 1993–2002 (firms of all sizes)



Source: "Sourcebook for Journalists 2003: Health Care Costs," December 2002, available from Alliance for Health Reform, http://www.allhealth.org/sourcebook2002/ch3_tc.html, accessed April 30, 2003.

Exhibit 4 Commercial Health Insurers, Net Revenues and Income, by 2003

Insurers	Revenues (millions)	Net Income (millions)	Enrollees (approximate) (millions)
Aetna, Inc.	\$17,976.0	\$933.8	13.0
Amerigroup	1,622.2	67.3	0.85
CIGNA Corp.	18,808.0	668.0	11.0
Coventry Health Care	4,577.1	250.1	2.5
Health Net	11,064.7	234.0	5.5
Humana	12,226.3	228.9	7.0
Oxford Health Plans ^a	5,452.4	351.9	1.5
Pacificare Health System ^a	11,008.0	242.7	9.0
Sierra Health Services	1,485.0	62.3	0.3
UnitedHealth Group	28,823.0	1,825.0	18.0
Wellpoint Health Network ^b	16,771.0	774.3	28.0

Source: Company 10-K filings.

^aPurchased by UnitedHealth in 2005.

^bAnthem and Wellpoint merged in 2004.

Exhibit 5 U.S. Hospital Statistics, 1975–2002

Type of Ownership	1975	1980	1990	1995	2000	2002
<u>Number of Hospitals</u>						
All Hospitals	7,156	6,965	6,649	6,291	5,810	5,794
Federal	382	359	337	299	245	240
Non-Federal ^a	6,774	6,606	6,312	5,992	5,565	5,554
Community ^b	5,875	5,830	5,384	5,194	4,915	4,927
Nonprofit	3,339	3,322	3,191	3,092	3,003	3,025
For profit	775	730	749	752	749	766
State/local government	1,761	1,778	1,444	1,350	1,163	1,136
<u>Hospital Admissions (thousands)</u>						
All hospitals	36,157	38,892	33,774	33,282	34,891	36,326
Federal	1,913	2,044	1,759	1,559	1,034	1,027
Non-federal	34,243	36,848	32,015	31,723	33,946	35,299
Community	33,435	36,143	31,181	30,945	33,089	4,478
Nonprofit	23,722	25,566	22,878	22,557	24,453	25,425
For profit	2,646	3,165	3,066	3,428	4,141	4,365
State/local government	7,067	7,413	5,236	4,961	4,496	4,688
<u>Number of Beds</u>						
All hospitals	1,465,828	1,364,516	1,21,327	1,080,601	993,866	975,962
Community	941,844	988,87	927,360	872,736	823,560	820,653
Nonprofit	658,195	692,459	656,755	609,729	582,998	582,179
<u>Occupancy Rate (% occupied)</u>						
All hospitals	76.7	77.7	69.6	65.7	66.1	67.8
Community	75.0	75.6	66.8	62.8	63.9	65.8
Nonprofit	77.5	75.6	69.3	64.5	65.5	67.2
<u>Average Length of Stay (days)</u>						
All hospitals	11.4	9.9	9.4	7.8	6.8	6.6
Community	7.7	7.6	7.2	6.5	5.8	5.7
Nonprofit	7.9	7.7	7.3	6.4	5.7	5.6
<u>Outpatient visits^c (thousands)</u>						
All hospitals	254,844	262,951	368,184	483,195	592,673	640,515
Community	190,672	202,310	301,329	414,345	521,405	556,404
Nonprofit	131,435	142,156	221,073	303,851	393,168	416,910
<u>Outpatient Surgery (% of total surgeries)</u>						
Community	N/A	50.5	58.1	62.7	N/A	63.4

Sources: Adapted from *Health, United States, 2004*, Tables 97, 98 and 109.

^aNon-Federal hospitals includes psychiatric, tuberculosis and other respiratory disease hospitals, and long- and short-term general and other special hospitals.

^bCommunity hospitals are non-Federal short-term general and special hospitals whose facilities and services are available to the public. Excludes hospital units in institutions such as prison and college infirmaries, facilities for the mentally retarded, and alcoholism and chemical dependency hospitals. Special hospitals include obstetrics and gynecology; eye, ear, nose and throat; rehabilitation and orthopedic.

^cOutpatient visits include visits to the emergency room, outpatient department, referred visits (such as pharmacy, EKG, radiology) and outpatient surgery.

Exhibit 6 Leading Pharmaceutical Companies, 2003

Company	2003 Sales (in millions)
Pfizer	\$45,188
Johnson & Johnson	41,862
GlaxoSmithKline	38,238
Novartis	28,247
Bristol-Myers Squibb	20,894
AstraZaneca	18,849
Wyeth	15,860
Eli Lilly	12,582

Source: Company reports.

Exhibit 7 Leading Biotechnology Companies, 2003 (ranked by revenue)

Company	2003 Sales (in millions)
Amgen	\$8,356
Genentech Inc.	2,799
Chiron Corp.	1,766
Biogen Inc. ^a	1,148
Genzyme General	1,713
MedImmune	1,054
Cephalon	714
Gilead Sciences	867
IDEC Inc.*	679

Source: Company reports.

^aMerged in 2003.

Exhibit 8 Product Line Sales for Selected Medical Equipment and Supply Companies, 2003

Company	Product Category	2003 Sales (in millions)
C. R. Bard, Inc.	Vascular	\$ 307.8
	Urological	451.5
	Oncology	336.3
	Surgical	272.3
	Other	71
Bausch & Lomb	Contact lenses	591.8
	Lens care	498.9
	Pharmaceuticals	467.9
	Cataract	327.9
	Refractive	133.0
Boston Scientific	Cardiovascular	2504.0
	Endosurgery	972.0
Guidant Corp.	Implantable Defibrillator Systems	1,488.7
	Pacemaker Systems	683.5
	Coronary Stent Systems	843.7
	Angioplasty systems	477.6
	Cardiac Surgery, biliary, peripheral & carotid system	205.3
Medtronic	Cardiac rhythm management	3630.8
	Neurological/Diabetes	1765.0
	Spinal and ear, nose, and throat	1610.8
	Vascular	842.2
	Cardiac surgery	630.9
St. Jude Medical	Cardiac rhythm management	1,148.0
	Cardiac surgery	252.0
	Cardiology	190.0
Stryker	Orthopedic implants	2093.0
	Medical-surgical equipment	1309.3
	Physical therapy services	223.0
Zimmer	Reconstructive orthopedic implants	1,512.0
	Trauma	151.0
	Spine	34.0
	Orthopedic surgical implants	177.0

Source: Company records.

Exhibit 9 Nonprofit Organizations Addressing Health Care Needs for Uninsured and Accountability

Three types of organizations work on behalf of the uninsured and underinsured:

1. Foundations
2. Grantees
3. Delivery organizations

1) Foundations

➤ *National organizations*

- Robert Wood Johnson Foundation

RWJ supports training, education, research (excluding biomedical research), and projects that demonstrate the effective delivery of health care services. Rather than paying for individual care, we concentrate on health care systems and the conditions that promote better health.

Grantees include: hospitals; medical, nursing, and public schools; hospices; professional associations; research organizations; state and local government agencies; and community groups.

RWJ had \$8 billion in assets in 2002.^a

- Kaiser Family Foundation: concentrates on facts and statistics related to uninsured and underinsured, media partnerships (webcast conferences, public opinion polls). Focuses on communications initiatives to increase awareness of issues, policy options, fund costs of coverage.

The Henry J. Kaiser Family Foundation focuses in three main areas: Health Policy, Media and Public Education, and Health and Development in South Africa.

The Foundation had total capital of roughly \$600 million and spent \$68 million.^b

- Commonwealth Fund

The Commonwealth Fund's current goals are:

- Improve health insurance coverage and access to care for all Americans
- Improve the quality of health care services and stimulate innovation in health care delivery
- Promote international exchange on health care policy and practice

It had \$500 million in total capital and spent \$31 million, \$25 million of it on grants.^c

- Kellogg Foundation: community initiatives

The Kellogg Foundation United States programming has centered on health, education, and agriculture.

Health: Improve the health of people in communities through increased access to integrated, comprehensive health care systems that are organized around public health, prevention, and primary health care, and guided and staffed by a broad range of well-prepared personnel.

In 2002, the Foundation made grant expenditures of \$223,123,701 to 961 of its 2,012 active projects.d

➤ *State Foundations*

- California Health Care Foundation

The California Health Care Foundation is an independent philanthropy committed to improving California's health care delivery and financing systems. Its work is organized into six areas:

- Quality
- Health and Technology
- Improving Care Delivery
- Health Insurance Markets and the Uninsured
- Provider Systems
- Medi-Cal/Healthy Families

In 2001, it had total assets of \$500 million and spent \$43 million.e

- Kansas Health Foundation

If the Foundation and its partners are successful in its endeavors to build a strong public health system in the state, health indicators will improve as follows:

1. Physical activity will increase.
2. The numbers of people who are overweight and obese will decrease.
3. Tobacco use will decrease.
4. Substance abuse will decrease.
5. Sexual behavior will become more responsible.
6. Mental health will improve.
7. Incidents of injury and violence will decrease.
8. Environmental quality (air and water) will improve.
9. Immunizations will increase.
10. Access to health care will improve.

In 2001, it had assets of \$438 million and spent \$21 million on charitable activities.f

- Georgia Health Foundation

The Georgia Health Foundation is dedicated to improving the health of Georgians. With 2002 total assets of \$8.4 million, it spent \$502,000 in grants.g

➤ *Professional Associations*

- Grant Makers in Health <www.gih.org>

Grantmakers in Health's mission is to foster communication and collaboration among grantmakers and others, and to help strengthen the grantmaking community's knowledge, skills, and effectiveness. It spent \$2 million in 2000 with assets of \$4 million.h

2) Grantees

➤ *Nonprofit organizations*

- The Actors Fund of America <www.actorsfund.org>, helping uninsured and underinsured understand their options, how to get coverage, etc.

The Actors Fund of America provides for the social welfare of all entertainment professionals. A century ago, there was prevailing prejudice against people in the theater. The Actors Fund was founded with a tradition of “taking care of our own.”

The Actors Fund offers a wide range of social services to working professionals, persons with AIDS, seniors and the disabled and others in need of help.

The Artists' Health Insurance Resource Center is designed to meet the critical need for health insurance information in the arts community, where three out of every ten people are without health insurance.

In 2001, the Fund spent \$19 million with total assets of \$45 million.ⁱ

- Best practices initiatives, such as Economic Social Research Institute (ESRI)

ESRI is a nonprofit, nonpartisan organization that specializes in health and social policy research.

3) Four categories of organizations work toward accountability.j Those which:

1. **Impose** accountability
2. Are **subjected to** accountability
3. **Support** accountability
4. Are **bridge players**

Sources: ^aThe Robert Wood Johnson Foundation Web site, <http://www.rwjf.org/about/mission.jhtml>.

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¹³⁹ Mae Thamer, Wenke Hwang, and Gerald F. Anderson, "Public support for policies that would help people with chronic conditions," *Health Affairs*, 2002, available from Proquest, <http://www.proquest.com>, accessed April 28, 2003.

¹⁴⁰ Markian Hawryluk, "CMS project to measure physician quality of care," *AMNews*, March 3, 2003, <http://www.ama-assn.org>, accessed April 23, 2003.

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