
ABSTRACT

**MANAGED HEALTH CARE EFFECTS: MEDICAL CARE
COSTS AND ACCESS TO HEALTH INSURANCE**

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This paper summarizes a longer paper, written for the American Association of Health Plans. That paper extensively surveys the research on the savings due to managed care and quantifies the costs of eliminating specific managed care practices in terms of both dollars and in terms of increasing the number of uninsured consumers. This issue is of immediate policy interest because managed care has recently come under legislative and legal attack that would eliminate or hinder the various managerial actions and contractual practices that constitute its essence.

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I. INTRODUCTION

The central idea of managed care is to control costs in an efficient way.¹ It has been a part of the United States health care system for a surprisingly long time. Nevertheless, it was not until the late 1980s, in response to dramatic increases in health care costs, that managed care became a major influence in the market. Despite – or perhaps, because of – its success in controlling spending, managed care has now become the target of lawsuits and legislation seeking to deter or forbid the managerial actions that constitute its very essence.² This article summarizes and refines the results of a much longer analysis that extensively reviews the literature on cost savings due to managed care, and estimates the impact of eliminating managed care practices on health care costs and reduced access to insurance.³

We had thought that the existence of cost savings due to managed care was uncontroversial. But a recent article by Kip Sullivan in this journal dissents from the consensus view. He argues that managed care may not save resources for two reasons: it shifts costs to the rest of the system, and it leads to higher administrative costs.⁴

We find that the bulk of the evidence suggests significant cost savings from managed care, even taking into account administrative costs. Some studies explicitly include the administrative costs of health plans. Moreover, the administrative costs simply do not appear large enough to cancel the savings of managed care found in studies that do not take them into account. For example, administrative costs of health care plans

¹ See Frech, H.E. III and Mobley, L.R.: "Health Insurance: Designing Products to Control Costs." *Industry Studies*, 2nd Edition, (ed) L. Duetsch (Armonk, N.Y.: M. E. Sharpe, 1998), 216-237.

² See, for example, "Legislation Would Raise Health-Care Premiums," *Wall Street Journal* (February 11, 2000); Kleinke, J.D.: "HMOs: The Law and Economics," *Barron's*, (December 13, 1999); and Levey, C.: "Three Ways to Shake Down an HMO," *Wall Street Journal*, (January 3, 2000) and Glied, S.: "Managed Care," in *Handbook of Health Economics*, Vol. 1A, ed. by A. J. Cuyler and Newhouse, J. P.: Amsterdam: Elsevier, 2000, 707-753, esp. p. 721. For a detailed analysis of the litigation, see Morreim, E.H.: "Confusion in the Courts: Managed Care Financial Structures and Their Impact on Medical Care," *Tort & Insurance Law Journal*, 35 no. 3 (Spring 2000): 699-728.

³ Frech, H.E. III and Langenfeld, J.: "The Impact of Managed Health Care on Medical Care Costs and Access to Health Insurance," Report prepared for the Health Benefits Coalition, April 2000.

⁴ Sullivan, K.: "On the 'Efficiency' of Managed Care Plans," *Health Affairs* v19 no. 4 (July/August 2000): 139-148.

were only 6.6 and 6.7 percent of personal health care spending in 1990 and 1996, in spite of rapid growth in managed care.⁵ HCFA estimated that only 5 percent of every healthcare dollar spent in the U.S. in 1998 went to administrative expenses.⁶ These studies do not appear to account for any additional administrative costs due to managed care that physician or hospitals may bear, but we are not aware of any systematic evidence that shows these additional costs to come anywhere close to offsetting the substantial and well-documented cost savings from managed care.⁷ In addition, contrary to the idea of cost shifting, the literature suggests spillover benefits from managed care to the rest of the system, as managed care has forced lower prices and more efficiency on fee-for-service.

Our quantitative analysis suggests that the elimination of all managed care practices in the United States would result in a total increase in costs of \$329 billion from 2002 to 2005, which translates into a cost of almost \$3,600 per household, or 8 percent of private insurance healthcare costs. In addition, we estimate that as many as 6.4 million people would lose medical insurance coverage if managed care was completely eliminated.

This article is divided into four major parts. In Section II, we discuss the economics and history of managed care. Section III presents our review of the literature on the cost savings from managed care, and Section IV contains our review of the research on the impact of higher insurance premiums on the number of uninsured. Section V describes the model we develop from the literature to estimate the magnitude of the extra costs and extra people uninsured that would result from eliminating managed care. Section VI discusses our conclusions.

⁵ Levit, K. R., et.al.: "National Health Expenditures 1996," *Health Care Financing Review* 19, no. 1 (Fall 1997): 188.

⁶ HCFA National Health Expenditures <http://www.hcfa.gov/stats/nhe-oact/tables/chart.htm>, downloaded on 1/13/00.

⁷ Any insurance regime generates administrative costs. Accordingly, only an increase in administrative costs unique to managed care and borne by health care providers is relevant. And this is at least partly picked up in studies of price discounts.

II. THE ECONOMICS AND HISTORY OF MANAGED CARE

Before reviewing the literature on the savings from managed care, it is useful to keep in mind the basic elements of health insurance, the history of managed care, and the general types of managed care organizations that have evolved to control costs.

A. The Function of Health Insurance and Managed Care's History

Health insurance organizations perform three primary tasks. The first task is the processing of enrollee claims. Second, health insurance spreads risk. Third, healthcare plans must control costs. In recent years, this has probably become the most important role of health plans.⁸ The plan must set a price low enough so that low-risk individuals remain in the plan. If costs are not contained, low-risk plan members are especially likely to opt out, leaving the high-risk enrollees with higher premiums. Health plans must balance costs with commensurate value, otherwise more people will become uninsured.

Managed care is not a new idea in health insurance. An early version, known as contract medicine, was set up by fraternal organizations, lodges, employers and consumer cooperatives as early as the 1700s. Contract medicine was economically identical to the modern health maintenance organization (HMO) whereby physicians agreed to provide all care to a patient group in return for capitated payments.⁹

The next major innovation in the development of managed care was the prepaid group practice. Developed in the 1930s, notable groups included Kaiser-Permanente, Group Health of Puget Sound, Group Health Association of Washington, D.C., and the Health Insurance Plan of Greater New York.¹⁰ By 1962, Kaiser enrollment surpassed one

⁸ See, e.g. Frech and Mobley (1998), esp. pp. 223-231.

⁹ Contract medicine was practiced in Boston as early 1721. In New Orleans, 88 percent of the population was covered by contract medicine by 1888. One contract between the Union Pacific Railroad and the Eugene (Oregon) Clinic survived as late as the 1970s, overlapping the modern HMO era. Organized medicine generally opposed contract medicine. See, Frech, H.E. III: *Competition and Monopoly in Medical Care* (Washington DC: The AEI Press, 1996), 69-74; Also, Beito, B.T.: *From Mutual Aid to the Welfare State: Fraternal Societies and Social Services, 1980-1967* (Chapel Hill: Univ. of North Carolina Press, 2000), esp. pp. 87-129.

¹⁰ These were generally nonprofit organizations, often organized as consumer cooperatives. Around 1970, the term health maintenance organization (HMO) was coined by Paul M. Ellwood.

million patients. In 1970, there were 33 HMOs in the U.S. with three million members total.¹¹ Looser forms of managed care (i.e. preferred provider organizations (PPOs) and managed indemnity), are more recent arrivals on the healthcare scene.

The early literature on HMOs and prepaid group practices shows that even the earliest HMOs had lower utilization, especially lower hospital utilization, than unmanaged indemnity insurance.¹² As can be seen in Table 1, health care expenditures as a percent of the U.S. Gross Domestic Product (GDP) increased from about 5 percent to over 12 percent from 1960 to 1990. Most economists believe the dramatic increase in healthcare expenditures was largely due to the poor incentives in traditional fee-for-service insurance.¹³ By the 1990s, managed care was seen as a progressive solution to the spiraling costs of health care under the traditional unmanaged indemnity insurance.¹⁴

Until recently, when managed care has come under attack from various sources, the growth in spending on healthcare slowed dramatically and leveled off at about 13.5 percent of GDP since. This is unprecedented. Most observers credit the growth in managed care plans for the stabilization of these costs.¹⁵

¹¹ Getzen, T.E.: *Health Economics* (New York: John Wiley, 1997): 232-233.

¹² Frech and Ginsburg (1978).

¹³ See, e.g., Feldstein, P.J.: *Health Economics*. 5th ed. (Albany: Delmar, 1999): 3-4.

¹⁴ See, e.g., Enthoven, A.C.: *Health Plan: The Only Possible Solution to the Soaring Cost of Medical Care*, (Reading, Mass.: Addison-Wesley, 1980).

¹⁵ See, e.g., CBO Memorandum. Predicting How Changes in Medicare's Payment Rates Would Affect Risk-Sector Enrollment and Costs (Washington, D.C.: Congressional Budget Office, March 1997): ix.

Table 1
National Health Expenditures, Aggregate Amounts,
Billions of Dollars, Selected Calendar Years 1960-1998

Spending category	1960	1970	1980	1990	1994	1995	1996	1997	1998
Real National health expenditures ^a	\$147.8	\$310.2	\$489.7	\$872.2	\$1051.8	\$1062.5	\$1080.5	\$1104.8	\$1149.1
National health expenditures as percent of GDP ^b	5.1%	7.1%	8.9%	12.2%	13.6%	13.7%	13.6%	13.4%	13.5%

Sources: Health Care Financing Administration, Office of the Actuary, National Health Statistics Group

Notes: ^a Using 1998 dollars as the benchmark

^b GDP is gross domestic product.

B. Government Acceptance of Managed Care

The federal and state governments have long supported managed care, beginning with the Federal HMO Act of 1973. Congress has amended this Act several times, most recently in 1996. States have turned to managed care to contain Medicaid costs.¹⁶ The Federal Employees Health Benefits Program system is largely comprised of managed care options.¹⁷

The Department of Justice and the Federal Trade Commission have explicitly supported managed care and its techniques. For example, they have recently stated that, *“risk sharing provides incentives for the physician to cooperate in controlling costs and*

¹⁶ Rowland, D and Hanson, K.: “Medicaid: Moving to Managed Care,” *Health Affairs* v15 no. 3 (1996): 150-152.

¹⁷ “Why Health Insurance That Works Still Fails to Catch On Broadly,” *Wall Street Journal* (January 18, 2000).

*improving quality by managing the provision of services by network physicians.”*¹⁸

Networks with substantial risk sharing generally qualify under an antitrust safety zone, and risk-sharing has been an important element in creating savings from managed care. Examples of provider risk-sharing include many standard managed care practices, such as capitation, holdbacks, bonuses and other incentives to reduce utilization below fee-for-service levels.

C. The Variety of Managed Care Offerings

Several types of managed care have developed over time, and each form has had a different impact on costs. The central theme of an HMO is that the insurance coverage and the delivery of medical care are integrated into a single organization. The HMO hires the doctors either on a salary basis or, more commonly, in the form of capitation payments. Typically, HMOs use primary care physicians to manage care and also act as a “gatekeeper” to specialists. This technique has apparently reduced specialists’ incomes, while boosting generalists’ incomes.¹⁹ HMOs also save by reducing hospitalizations and reducing the intensity of treatments in general.²⁰

Independent Practice Associations (IPAs) can be a cross between the traditional fully-capitated group type of HMO and fee-for-service. Typically, the IPA’s panel of physicians are not all from the same group. IPA physicians are paid on a fee-for-service basis or, less commonly, on a capitated basis. Fee-for-service payments are typically modified to provide incentives to control utilization, e.g. by withholding. In effect, this is a more flexible version of capitation.

PPOs usually supply services on a discounted fee-for-service basis in return for a large volume of patients. PPO providers normally agree to participate in a utilization review (UR) program. Enrollees have the option of going outside of the network, often at

¹⁸ See Department of Justice and Federal Trade Commission. 1996. “Revised Policy Statements on Health Care Antitrust Enforcement.” <http://www.ftc.gov/reports/hlth3s.htm>, downloaded January 10, 2000.

¹⁹ Simon, C., et.al.: “The Effect of Managed Care on the Incomes of Primary Care and Specialty Physicians.” *Health Services Research* v33 no. 3, Pt 1 (August 1998): 549-569.

²⁰ Luft, H.S.: *Health Maintenance Organization: Dimensions of Performance*. (New York: Wiley & Sons, 1981) and Glied (2000): 707-754.

substantially higher copayment rates (e.g. 20 percent coinsurance out-of-plan versus 5 percent in-plan). A PPO's main sources of cost control are the prospective price discounts, UR, and selective contracting. Economically similar to PPOs, point of service (POS) plans typically offer nearly full coverage for in-plan providers, and less coverage (more copayment) for out-of-plan providers.

Often overlooked are the least intensively managed care plans, called managed indemnity. There is no network of providers, but there is before-service utilization review. Generally, benefits are less (there is more consumer copayment) if services are not preauthorized. While savings are less than the other forms of managed care, managed indemnity is important because it is so widespread.

III. The Literature on Cost Savings from Managed Care

There are many studies on the relative costs of managed care and unmanaged indemnity, recently reviewed by us²¹ and Sherry Glied.²² Taken as a whole, the studies demonstrate that important savings have been achieved by managed care. The exact findings differ in many ways, and use different techniques and data sources to measure managed care's impact on costs. Table 2 gives an overview of the savings attributed to managed care in various recent studies. Below we discuss some of the research included in Table 2. The studies examined are limited to those using data post-1980. Prior to 1980, managed care penetration was still very limited.²³

²¹ Frech and Langenfeld (2000): 4.

²² Glied (2000): 707-753. She finds that overall reductions in utilization due to HMOs are in the 10-15 percent range, comparable to earlier surveys.

²³ See, Miller and Luft (1994).

Table 2
Estimates of Managed Care Cost Savings Relative
to Non-Managed Indemnity: Estimates in the Literature

	Utilization Review	Utilization Management	Provider Discounts	Selective Contracting ^a	Total Managed Care Savings ^b
Managed Indemnity	CBO (1994, 1995) ²⁴ 4% Khandker and Manning (1992) 4.4% Scheffler, et.al. (1991) 4% Wickizer, et.al. (1989) 6% HDI (1988) 7% Feldstein, et.al. (1988) 8.3%	Not Applicable	Not Applicable	Not Applicable	CBO (1994, 1995) 4% Khandker and Manning (1992) 4.4% Scheffler, et.al. (1991) 4% Wickizer, et.al. (1989) 6% HDI (1988) 7% Feldstein, et.al. (1988) 8.3%
PPO/POS	CBO (1994, 1995) 4%	Barent's (1998b) 4% Smith (1997/98) 10%	Barents (1998b) 6% B.T. Alex Brown (1998) 15-23% Verrilli and Zuckerman (1996) 9-16% Hosek, Marquis and Wells (1990) 0-30%	Barents (1998b) 5%	Smith (1997/98) 16% Lewin (1994, 1997) 12% Zwanziger and Auerbach (1991) ²⁵ PPOs increased expenditures (no % estimated)
IPA HMO	CBO (1994, 1995) 4%	Barents (1998b) 8% Lewin (1994, 1997) 4% CBO (1995) 1%	Altman, Cutler, and Zeckhauser (2000) 20% Cutler, McClellan and Newhouse (2000) 30-40% Lewin (1995) 15% Schlenker (1995) 25%	Barents (1998b) 13%	Glied (2000) 10-15% Lewin (1994, 1997) 23%
G/S HMO	CBO (1994, 1995) 4%	Barents (1998b) 8% CBO (1997) 20%	Cutler, McClellan and Newhouse (2000) 30-40% Altman, Cutler, and Zeckhauser (2000) 20% Barents (1998b) 8% Schlenker (1995) 25%	Barents (1998b) 16%	Glied (2000) 10-15% Dowd (1996) <i>Medicare</i> 5% CBO (1995) 20% Pallak (1994) <i>Medicaid</i> 23-40% McCall (1994) <i>Medicaid</i> 3% Miller and Luft (1994) -1% to +13% Hurley (1993) <i>Medicaid</i> 10%-50% Hill (1992) ²⁶ <i>Medicare</i> 11% Lubeck (1985) ²⁷ 13%

²⁴ CBO Memorandum. *Effects of Managed Care: An Update*. Washington D.C.: Congressional Budget Office, March 1994; Also, CBO Memorandum. *The Effects of Managed Care and Managed Competition*. Washington, D.C.: Congressional Budget Office, February 1995.

²⁵ Zwanziger, J. and Auerbach, R.R: "Evaluating PPO performance using prior expenditure data." *Medical Care*, v20, (1991): 142-151.

MCO (Non-Plan Specific Estimates)				Atkinson & Co. (1994) 9-29% Arthur Anderson (1994) <i>selective contracting</i> 17%	
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- Notes:**
- ^a Selective contracting includes some of the cost savings of provider discounts and utilization management, so it cannot be added to them.
 - ^b Studies in this category are not broken down to the particular techniques that may have achieved the savings, rather the total saving are grouped together.

A. General Studies on Cost Savings and Spillover Effects

Recent research suggests that managed care reduces health care costs for its enrollees and also throughout the health care system. There is evidence that managed care premium rates for some forms of managed care have increased at a lower rate than traditional indemnity insurance premiums.²⁸ Several studies show that higher HMO market share reduces hospital costs.²⁹

In a study examining over 200,000 individuals in a single insurance pool for eight diagnoses, Altman, Cutler and Zeckhauser found that average HMO costs were 40 percent lower than indemnity plan costs. Half of this difference was due to differing incidence of disease (due to a combination of positive selection³⁰ and utilization controls)

²⁶ Hill, J. et.al.: "The Impact of Medicare Risk Program on the Use of Services and Costs to Medicare." Prepared for Health Care Financing Administration. (Princeton, NJ: Mathematica Policy Research, Inc, December 1992).

²⁷ Lubeck, D.P., Brown, BW, Holman, H.R.: "Chronic disease and health system performance: care of osteoarthritis across three health services." *Medical Care*, v23 (1985): 266-277.

²⁸ See, for example, Miller, R.H. and Luft, H.S.: "Managed Care Plans: Characteristics, Growth, and Premium Performance," *Annual Review of Public Health*, v(15): 437-59, 1994; Feldman, R.: "The Effects of HMOs on Premiums in Employment-Based Health Plans," *Health Services Research*, v27(6), (1993): 779-811; Gabel, J. and Liston, D.: "Trends in Health Insurance: HMOs Experience Lower Rates of Increase than Other Plans," *Analysis by KPMG Survey of Employer Health Plans data prepared for the AAHP*. (Washington, D.C.: KPMG Peat Marwick, 1993).

²⁹ See two articles by Robinson, J.C.: "HMO Market Penetration and Hospital Cost Inflation in California," *Journal of the American Medical Association* v266 no. 19 (November 20, 1991): 2719-923 and "Decline in Hospital Utilization and Cost Inflation Under Managed Care in California," *Journal of the American Medical Association* v276 (October 1996): 1060-4; and two articles by Melnick, G.A. and Zwanziger, J.: "Hospital Behavior Under Competition and Cost-Containment Policies," *Journal of the American Medical Association* v260 no. 18 (1988): 2669-2675 and "State Health Care Expenditures under Competition and Regulation, 1980 through 1991," *American Journal of Public Health* v85 no. 10 (October 1995): 1391-1396; Also, Cutler, D.M. and Sheiner, L.: "Managed Care and the Growth of Medical Expenditures." (August 1997) *NBER Working Paper 6140*.

and service intensity was almost identical. The authors were able to attribute a 20 percent savings to price discounts.³¹

Another recent study based on HMO data for Medicare, the CBO conservatively estimated that HMOs could provide the basic Medicare benefit package for less than 87 percent of what Medicare would have paid in the fee-for-service sector. This estimate includes all relevant factors, consumer characteristics (to control for positive selection) and administrative expenses.³² In a separate analysis in the same publication, the CBO found that Medicare HMO utilization savings was growing over time, suggesting that HMOs are subject to a learning curve.³³

Research by McCall found that the state of Arizona reduced Medicaid spending growth by 3 percentage points per year by requiring Medicaid beneficiaries to enroll in a choice of HMOs that bid competitively on cost, quality, and access, saving an estimated \$100 million over a ten-year period compared to a traditional Medicaid program.³⁴

There are several studies suggesting that managed care may have important spillover effects onto the fee-for-service healthcare sector. For example, Baker found that increases in HMO penetration from 20 to 30 percent are associated with 3 to 7 percent expenditure reductions for fee-for service insurance within Medicare.³⁵ A related study looking at private insurance, Baker et.al. reported that premiums to both HMO and non-HMO consumers were lower in areas with high HMO market penetration. Non-HMO premiums were lower by 5 to 6 percent in areas with HMO market

³⁰ “Positive selection” refers to the phenomenon where healthier people enroll in managed care, as opposed to fee-for-service plans, because they have a lower probability of needing medical services.

³¹ Altman, D., Cutler, D.M., and Zeckhauser, R.J.: “Enrollee Mix, Treatment Intensity, and Cost in Competing Indemnity and HMO Plans,” (August 2000) *NBER Working Paper 7832*.

³² CBO Memorandum. *Predicting How Changes in Medicare’s Payment Rates Would Affect Risk-Sector Enrollment and Costs* (Washington, D.C.: Congressional Budget Office, March 1997): 13-16. Most of the savings are passed on to the beneficiaries in the form of lower copayments and extra services covered.

³³ CBO (1997): 38-40.

³⁴ McCall, N. et.al.: “Managed Medicaid Cost Savings: The Arizona Experience.” *Health Affairs* v13 (Spring 1994): 234-245.

³⁵ Baker, L.C.: “The Effect of HMOs on Fee-for-Service Health Care Expenditures: Evidence from Medicare.” *Journal of Health Economics*, v16 (1997): 453-481.

penetration of 45 percent or more, versus those with 10 percent or less.³⁶ These results indicate that managed care does not impose higher costs on the rest of the healthcare system through shifting costs or positive selection, but suggest that managed care instead reduces costs in the rest of the system. Moreover, by measuring managed care's impact on premiums, this study includes plan administrative costs directly and administrative costs to providers indirectly through provider prices.

Several studies indicate that managed care slows the rate of adoption of new, expensive technologies.³⁷ Many of these technologies improve healthcare, but their growth is also believed to be an important factor behind the rise in medical expenditures.³⁸ Accordingly, these findings suggest that managed care has a long-term affect on moderating the growth rate in health care expenses, not just the level of expenses.

B. Utilization Review and Management

Utilization Review (UR) is the practice of determining the medical necessity, appropriateness and efficiency of a member's prescribed treatment. Examples include concurrent and retrospective review, prospective review, second surgical opinions, and requirements for pre-certification.

Most research examining the impact of UR concentrates on more-or-less natural experiments with single employers or single insurers. The research is fairly recent, since the idea of adding UR to indemnity insurance is itself new. Richards found that two

³⁶ Baker, L.C., et.al.: "HMO Market Penetration and the Costs of Employer-Sponsored Health Plans," *Health Affairs* v19 no. 3 (September/October 2000): 121-128.

³⁷ See, for example, Cutler, D.M. and Sheiner, L.: "Managed Care and the Growth of Medical Expenditures." *NBER Working Paper 6140*, Aug. 1997; Baker, L.C. and S. K. Wheeler: "Managed Care and Technology Diffusion: The Case of MRI." *Health Affairs* 17 no.5 (September/October 1998): 195-207; Baker, L.C. and Phibbs, C.S.: "Managed Care, Technology Adoption, and Health Care: The Adoption of Neonatal Intensive Care." *NBER Working Paper W7883* (Sept. 2000).

³⁸ See, for example, Weisbrod, B.A.: "The Health Care Quadrilemma--An Essay on Technological Change, Insurance, Quality of Care and Cost Containment," *Journal of Economic Literature* 29 (1991): 523-552; Newhouse, J.P.: "Medical Care Costs: How Much Welfare Loss?" *Journal of Economic Perspectives*, 1992; Cutler, D.M., and McClellan, M., "The Determinants of Technological Change in Heart Attack Treatments," mimeo, (March 1996).

employers reduced average length of hospital stay via UR programs by 18 and 21 percent, respectively.³⁹ An experimental UR program implemented by one large employer resulted in a decrease in the number of medical claims of 3.8 percent.⁴⁰ In a study of University of Michigan employee groups, Feldstein, Wickizer and Wheeler reported that UR reduced hospital room and board expenditures by 8 percent, ancillary hospital expenditures by 14.8 percent, and total medical expenditures by 8.3 percent for the 1984-85 period.⁴¹ The authors did not find evidence of positive selection. The combination of preadmission and concurrent review reduced payments by about 4 percent for Blue Cross and Blue Shield plans during the 1980s.⁴² In an important study using Aetna actuarial data, Lewin found that utilization controls of all kinds created a 4 percent cost savings for most IPA HMOs.⁴³ Lewin took into account the change in administrative costs and also made very conservative adjustments for differences in risk selection in its estimates. The Lewin study is useful because of its comprehensiveness and because it lends itself to quantifying savings by type of plan.

Khandker and Manning reported that UR reduced overall medical expenses for one large insurer by 4.4 percent. The authors found that the savings overwhelmed the additional administrative costs, by a ratio of six to one. In particular, inpatient expenses decreased by 8.1 percent after a year of implementation.⁴⁴ In summary, UR has been

³⁹ Richards, G.: "Business Spurs UR Growth." *Hospitals* v58 no. 5 (March 1984): 96-97.

⁴⁰ O'Donnell, P.: "Managing Health Costs under a Fee-for-Service Plan." *Business and Health* 4 (March 1987): 38-41.

⁴¹ Feldstein, P.J., Wickizer, T.M. and Wheeler, J.R.: "The Effects of Utilization Review Programs on Health Care Use and Expenditures." *New England Journal of Medicine* v318 (May 19, 1988): 1310-1314.

⁴² Scheffler, R.S., Sullivan, R.S. and Ko, T.: "The Impacts of Blue Cross and Blue Shield Plan Utilization Management Programs, 1980-1988." *Inquiry* v28 no. 3 (Fall 1991): 263-275.

⁴³ Lewin Group (Stapleton, D. C.): *New Evidence on Savings from Network Models of Managed Care*. Prepared for the HealthCare Leadership Council (Washington, D.C.: Lewin-VHI, May 1994): 13-29 and Lewin Group (Sheils, J. F. and R. A. Haught). *Managed Care Savings for Employers and Households: 1990 through 2000*. Report, (Washington D.C.: Lewin-VHI Inc., May 23, 1997a): 5-6.

⁴⁴ Khandker, R.K. and Manning, W.J.: "The Impact of utilization review on costs and utilization," in *Health Economics Worldwide* (eds) P. Zweifel and Frech, H.E.III: (Dordrecht: Kluwer Academic Publishers, 1992): 47-62. See pp. 53-54 on the administrative costs.

found effective in reducing medical care costs in many studies, with savings ranging from 4 percent to 12 percent.

Utilization Management (UM) involves the incentives and measures the insurer takes to enhance the efficiency of provider behavior, while maintaining or improving the quality of services. Examples include education, practice guidelines, and quality monitoring. UM focuses on providers, rather than on an episode of care.

UM has rarely been studied separately. However, a study by Smith (1997/98) using data on claims experiences of early PPOs showed UM decreased utilization, relative to managed indemnity, by about 10 percent.⁴⁵ Lewin found that utilization controls in total saved only 4 percent over traditional indemnity insurance in IPA HMOs. For PPO/POS organizations, Lewin estimated an 8 percent savings from utilization controls plus discounts combined.⁴⁶ Again, the Lewin estimates account for administrative costs and a conservative allowance for risk selection.

Hillman, et. al. investigated how different reimbursement arrangements affected physicians' clinical decisions using 1987 survey data from health care plans. The use of capitation or salaries by HMOs was associated with a lower rate of hospitalization than the use of FFS payment.⁴⁷ Since this capitation-induced utilization control is not related to specific patients or episodes of care, we classify it as utilization management.

Barents (1998b), making a judgement based on the literature, credits UM with savings of 4 percent in POS/PPO plans, 8 percent in IPA HMOs and 18 percent in G/S HMOs.⁴⁸

Although controversial, UR and UM may be helpful in limiting excessively costly treatments that yield relatively little benefits. There are significant variations in medical

⁴⁵ Smith, D. G.: "The Effects of Preferred Provider Organizations on Health Care Use and Costs." *Inquiry* v34 (4), (Winter 1997/1998): 278-287.

⁴⁶ Lewin Group (1994): 13-29, and (1997a): 5-6.

⁴⁷ Hillman, A.L. et.al.: "How Do Financial Incentives Affect Physicians' Clinical Decisions and the Financial Performance of Health Maintenance Organization." *The New England Journal of Medicine* v321 (2) (July 13, 1989): 85-92.

⁴⁸ Barents Group: "Impacts of Four Legislative Provisions on Managed Care," (Washington, D.C.: Barents Group, April 22, 1998b): 13.

practices found across communities as well as within communities. The probability a patient receives a certain medical intervention depends on where they live, rather than the patient's symptoms.⁴⁹ This variation in medical treatments suggests that many patients are not getting medically useful treatment, while others may be receiving unnecessary care. This variability can place patients at risk, because unnecessary treatments can reduce health outcomes, as well as increase costs. Accordingly, unquestioned individual physician decision-making, doesn't necessarily lead to the highest absolute medical benefit, let alone medical benefit in reasonable relation to costs.

C. Price Discounts and Selective Contracting

Provider discounts include reduced fees that derive from bonus, capitation and salary arrangements that reduce average per-service payments. Selective contracting and network selection enables a plan to reduce costs by selecting more efficient, less costly providers.

In the California MediCal program, selective contracting with hospitals was found to be responsible for cost reductions of over 15 percent.⁵⁰ Investment analysts have found average managed care industry discounts to be in the range of 20 to 30 percent.⁵¹ Verrilli and Zuckerman documented discounts of 10 to 20 percent achieved by two large national insurers through selective contracting.⁵² In a study of some early PPOs, Hosek, Marquis, and Wells found discounts ranging from zero to 30 percent.⁵³

⁴⁹ See, for example, Wennberg, J., et.al.: "Are Hospital Services Rationed in New Haven or Over-utilized in Boston?" *Lancet* v1 (1989): 1185-88; O'Conner, G., et.al.: "Geographic Variation in the Treatment of Acute Myocardial Infarction: The Cooperative Cardiovascular Project." *Journal of the American Medical Association*, v281 (1999): 627-33.

⁵⁰ Johns, L.: "Selective Contracting in California." *Health Affairs* v4 no. 3 (Fall 1985): 32-48.

⁵¹ B.T. Alex Brown: "Initiated Research Coverage of National Managed Care Company Targeting Self-Insured Employers" (1997).

⁵² Verrilli, D. K. and Zuckerman, S.: "Preferred Provider Organizations and Physician Fees." *Health Care Financing Review* 17 no. 3 (Spring 1996): 161-170.

⁵³ Hosek, S. D., Marquis, M.S. and Wells, K.B.: *Health Care Utilization in Employer Plans with Preferred Provider Organization Options*, (Santa Monica: Rand, February 1990): 4.

Lewin found that average savings due to price discounts for IPA HMOs was approximately 15 percent. PPOs and POS organizations garnered an 8 percent savings from discounts and utilization management together.⁵⁴ Lewin's estimates are lower than some other studies, in part, because they take account of the additional plan administrative costs involved in obtaining and processing discounts.

Cutler, McClellan and Newhouse found that spending by one Massachusetts HMO on serious heart patients was about 30-40 percent lower than unmanaged indemnity.⁵⁵ For these diagnoses, almost all the difference was attributed to lower prices, rather than differences in services. Health outcomes (deaths and readmissions) were similar.

Capitation has also been studied in recent papers. Schlenker, Shaughnessy and Hittle examined patient-level costs of home health care under capitated and fee-for-service payment arrangements for Medicare beneficiaries. They found that the average HMO patient's home health cost was two-thirds (67 percent) of the average cost per fee-for-service patient.⁵⁶ This savings included both price discounts and utilization control induced by capitation.

Krawlewski, et.al. reported a 7 percent combined savings for capitation (i.e. discounts and utilization combined) of the medical group and the physician within the group in a sample based on a Blue Cross managed care program. Because of the study design, this estimate is a lower bound.⁵⁷

⁵⁴ Lewin Group (1994): 13-29 and (1997a): 5-6.

⁵⁵ Cutler, D.M., McClellan, M. and Newhouse, J.P.: "How Does Managed Care Do It?" *Rand Journal of Economics* (forthcoming, 2000).

⁵⁶ R. E. Schlenker, P. W. Shaughnessy and Hittle, D.F.: "Patient-Level Cost of Home Health Care Under Capitated and Fee-for-Service Payment," *Inquiry* 32 (Fall 1995): 252-270.

⁵⁷ Krawlewski, J.E., Rich, E.C., Feldman, R., et.al.: "The Effects of Medical Group Practice and Physician Payment Methods on Costs of Care," *Health Services Research* v35 no. 3 (August 2000): 591-614. The full effect is underestimated because, even without formal capitation, both groups and individual physicians are selected partly on grounds of costs and because capitation works partly through other characteristics, which were controlled for in this study.

Barens credits discounts with savings of 6 percent for POS/PPOs, 15 percent for IPA HMOs and 8 percent for G/S HMOs.⁵⁸

IV. The Impact of Higher Insurance Premiums on the Uninsured

A small but important body of literature measures how premium hikes increase the uninsured population. Using data from 1989 through 1994, Sloan and Conover reported that more mandates requiring coverage of extra services or, in other ways, hindering managed care, raise the probability of being uninsured.⁵⁹ Quantitatively, they found that removing benefit mandates entirely would cause the uninsured non-elderly population to fall from 18 to 14 percent. Goodman and Musgrave estimated that 14 percent of the uninsured in America lacked coverage because of mandates.⁶⁰ As health care costs rise, employers and individuals will reduce or eliminate their health care coverage, leading to an increase in the number of uninsured. Based on the literature Lewin estimated a net (of individual insurance purchases) elasticity of demand for health insurance of -0.27.⁶¹ That is, a one percent increase in healthcare insurance will reduce the number of insured by about a quarter of one percent.

Mandated benefits are also found to disproportionately affect small businesses by Jensen and Morrissey.⁶² Eliminating all mandates would increase the proportion of small firms offering insurance by 9.4 percent.

Finally, Kronick and Gilmer found that almost all of the decline in coverage over the 1979-1995 period can be attributed to the rapid growth in per capita health care

⁵⁸ Barens Group, "Impacts of Four Legislative Provisions on Managed Care," (Washington, D.C.: Barens Group, April 22, 1998b): 13.

⁵⁹ Sloan, F.A. and Conover, C.J.: "Effects of State Reforms on Health Insurance Coverage of Audits," *Inquiry* 35, no. 3 (Fall 1998): 280-293.

⁶⁰ Goodman, J.C. and Musgrave, G.L.: *Freedom of Choice in Health Insurance* (Dallas, Texas: The National Center for Policy Analysis, November, 1987).

⁶¹ Lewin, letter from John F. Shiels to Richard Smith, (Nov. 17, 1997b).

⁶² Jensen, G.A. and Morrissey, M.: "Small Group Reform and Insurance Provision by Small Firms, 1989-1995," Unpublished Draft, (1999).

spending relative to the per capita growth in income.⁶³ The authors calculate that, if health spending were to rise 5.5 percent per year while personal income rose only 2.7 percent, the percentage of uninsured workers would increase by about 0.4 percentage points per year.

In summary, the research shows that higher insurance premiums and higher health care costs increase the number of uninsured, and the uninsured will tend come primarily from the working poor, and also disproportionately from employees of small firms.

V. QUANTIFICATION OF THE ECONOMIC COSTS OF ELIMINATING MANAGED CARE PRACTICES

In this section we use results from the literature to quantify the savings from managed care practices. We have made what we believe to be reasonable assumptions where there are no specific estimates in the literature, so our estimates should be viewed as giving reasonable approximations of cost increases from the elimination of managed care. We also examine the effect of higher managed care premiums in decreasing access to health insurance.

A. Estimation Methodology for Cost Increases from Eliminating Managed Care

Our basic approach is to extend and refine existing models including those prepared by the Barents Group.⁶⁴ In its simplest form, we take estimates of the percentage of cost savings for each type of managed care practice and managed care organization, and use them to estimate the loss from eliminating particular practices. Table 3 presents estimates of managed care cost savings relative to non-managed indemnity used in our model which generally reflect the low end of the estimates in the

⁶³ Kronick, R. and Gilmer, T.: "Explaining the Decline in Health Insurance Coverage, 1979-1995." *Health Affairs* 18 no. 2 (March/April 1999): 30-47.

⁶⁴ See Barents Group: "Impact of Legislation Affecting Managed Care Consumers: 1999-2003," (Washington, D.C.: Barents Group, April 21, 1998a) and "Impacts of Four Legislative Provisions on Managed Care," (Washington, D.C.: Barents Group, April 22, 1998b).

literature (see Table 2). We assume that changes in managed care policy as a result of pending legislation or litigation would be felt beginning in 2002, so we sum the estimated losses for different customer classes over 4 years (2002 to 2005) based on projections of future medical costs. We group managed care into IPA HMOs, Group/Staff HMOs, PPO/POs, and managed indemnity. The practices examined are UR, UM, provider discounts, and separately, the combination of practices reflected in selective contracting. The groups bearing these extra costs are divided into employer, employee, and other, with each of these groups further divided into private, federal, and state and local government payers.

Table 3
Estimates of Managed Care Cost Savings Relative
to Non-Managed Indemnity: Estimates used in the Model

	Utilization Review	Utilization Management	Provider Discounts	Selective Contracting
Managed Indemnity	4%	Not Applicable	Not Applicable	Not Applicable
PPO/POS	4	4%	8%	2% <i>Admin & Other</i> 3% <i>UM and Discounts</i>
IPA HMO	4	8	15	2 <i>Admin & Other</i> 9 <i>UM and Discounts</i>
G/S HMO	4	18	8	2 <i>Admin & Other</i> 12 <i>UM and Discounts</i>

We assume that costs will be passed on through higher premiums. This would be exactly true if insurance markets were perfectly competitive. We believe that most of these markets are likely to be reasonably competitive, as reflected in the observed narrow profit margins in managed care.⁶⁵ However, the pass through assumption is a good approximation, even if one believes that managed care plans have some market power. A

⁶⁵ For example, HMO margins have actually been negative recently, with the industry losing \$186 million in 1999 and \$864 million in 1998. See Casey, M.: "Top 6% of HMOs Widen Gap Between Profitable and Not," *Medical Industry Today*, (Sept. 28, 2000).

substantial portion of cost changes are passed on with oligopoly and monopolistic competition. Even an isolated monopolist, in general, would pass on much of higher costs in the form of higher prices.⁶⁶

We use the HCFA's projections on the total premium expenditures from 1999 through 2003 for employment-based health insurance, adjusted and supplemented for our period of analysis, 2002 through 2005.⁶⁷ Also, we follow the Lewin estimate that 83 percent of employer-based health care expenditures are borne by the employer and 17 percent by the employee.⁶⁸ This allows us to allocate the dollar costs between employers and employees. However, higher employer cost is merely a temporary effect of higher premiums. The literature shows that all or most of the increased premiums will eventually be shifted to the employees in the form of lower wages or reduced benefits.⁶⁹

The Barents model assumes that 70 percent of the employment-based coverage plans are with managed care. However, managed care penetration is now closer to 85 percent.⁷⁰ We assume a proportional rise in the penetration among state and local government employees. We set Federal employee managed care penetration at 100 percent.

Managed indemnity is a major omission in earlier work. Fully 85 percent of indemnity plans now employ some form of utilization review.⁷¹ By separately considering utilization review, we can include managed indemnity.

⁶⁶ For example, in the linear demand case, it can be shown that exactly half of a cost increase is passed on by an isolated monopolist. Even more is passed on in the constant elasticity of demand case (Eg., if the elasticity of demand is -10, then 91 percent of a cost increase is passed on).

⁶⁷ The National Health Expenditure Account categories included in this analysis are for hospitals, physicians, home health care, and pharmacy products and services. These spending categories represent the bulk of expenditures affected by changes in managed care practices.

⁶⁸ Barents, (1998); Lewin, (1997a).

⁶⁹ Pauly, M.V.: *Health benefits at work: an economic and political analysis of employment-based health insurance*, (Ann Arbor: University of Michigan Press, 1997).

⁷⁰ W. Mercer/Foster Higgins: *National Survey of Employer-Sponsored Health Plans*, (Washington, DC: William M. Mercer, Inc., 1998).

⁷¹ Lewin, (1997a).

Our model calculates the increase in costs to Medicaid and Medicare resulting from the elimination of all managed care practices. We are not able to break down the costs that would result through the piecemeal elimination of specific managed care practices only, because of the nature of managed care pricing for these programs. Thus, we assume no increased costs to Medicaid or Medicare unless all practices are eliminated.

Data on costs and managed care penetration for Medicaid and Medicare are obtained from HCFA.⁷² The savings that managed care yields to Medicare and Medicaid differs from private insurance. We assume that Medicare saves 5 percent of costs by enrolling recipients in managed care,⁷³ while Medicaid savings is assumed to be about 10 percent.⁷⁴ We found that Medicaid managed care payments grew 28 percent from 1998 to 1999, however, several insurance companies have ceased providing this type of coverage recently. Accordingly, we assume the penetration rate remains constant through 2005. Our Medicare projections are based on HCFA's estimate of the growth rate in Medicare managed care costs, 19.2 percent in fiscal 1999 to 2002. Growth of Medicare managed care is conservatively assumed to be zero from 2002-2005.

Lewin provides non-group data from 1990 to 1996.⁷⁵ To extrapolate these data to our study period, we apply the 1990-96 compound growth rate of the premium costs of the plans in that study (IPA HMOs, G/S HMOs, PPO/POS, and indemnity). In 1996, 54

⁷² Sources for the HCFA data are: HCFA. Medicaid Managed Care State Enrollment – December 31, 1998. <http://www.hcfa.gov/medicaid/omcpr98.htm> downloaded (January 4, 2000), 1999; HCFA. Financial Management Report for FY – 1998. Quarterly Medicaid Statement of Expenditures for the Medical Assistance Program HCFA-64. <http://www.hcfa.gov/medicaid/ofs-64.htm> downloaded (January 9, 2000), 1999; HCFA. “Medicare and Prepaid Enrollment Distribution by State 1999.” Table. HCFA/CHPP/OIS and US Department of Commerce, Bureau of the Census (July 1999) and HCFA. National Health Expenditures Aggregate and Per Capita Amounts, Percent Distribution, and Average Growth, by Source of Funds: Selected Calendar Years 1960-1998. <http://www.hcfa.gov/stats/nhe-oact/tables/t1.htm> downloaded (January 12, 2000).

⁷³ Lewin Group (Sheils, J. F., D. C. Stapleton, and R. A. Haught): *The Cost of Legislative Restrictions on Contracting Practices: The Cost to Governments, Employers and Families*. (Washington D.C.: Lewin-VHI Inc., June 21, 1995).

⁷⁴ Hurley, H.E., et.al.: *Managed Care in Medicaid: Lessons for Policy and Program Design*, (Ann Arbor, MI: Health Administration Press, 1993): 178-80. See especially pp. 83-95

⁷⁵ Lewin, (1997a).

percent of non-group coverage was indemnity, 38 percent was HMO, and 8 percent was PPO. In 1996, 85 percent of the indemnity was managed indemnity. Thus, 92 percent of non-group coverage is managed care.

We make an inflation adjustment to put all costs in year 2000 dollars. We use the 30-year Treasury bond rate as an estimate of future inflation. As of December 1999, it was 6.35 percent. This is conservative, considering that inflation over the past six years has been approximately 2.4 percent per year.

B. Estimation Methodology for the Impact of Higher Costs on the Uninsured

Our model assumes that the price elasticity of demand for employment-based managed care insurance is -0.4 .⁷⁶ Thus, a 10 percent increase in the price of managed care insurance will lead to a 4 percent reduction in the number of people covered. Following Lewin and Barents, of those who drop or lose employment-based managed care coverage, one-third are assumed to find non-employment based insurance.⁷⁷ So, the effective price elasticity on insurance coverage is -0.27 ($2/3$ of -0.4). To be conservative, we have assumed that no government workers will become uninsured due to the cost increases.

For consistency and simplicity, we assume that the full effect of the increase in premiums on the number of people insured will be felt by 2002. No one is paying premiums for those who lose coverage. While these individuals are clearly harmed, we assume that the additional financial cost to these individuals is zero.

C. Cost Increases Attributable to the Elimination of Managed Care Practices

The following sections present the results of our model. First, we study eliminating all managed care. Then, we consider eliminating each practice separately.

⁷⁶ Lewin, (1997a); Sloan and Conover, (1998).

⁷⁷ Lewin (1997a); Barents, (1998): 21.

Finally, we estimate the impact on the uninsured population and discuss other impacts not quantified.

1. Eliminating All Managed Care

As shown in Table 4, eliminating all managed care practices would be very costly. It would raise costs by about \$329 billion for 2002 through 2005 (\$3,600 per household), or 8 percent of private insurance healthcare expenditures. Of this, private employers would pay an extra \$183 billion and private employees would pay an extra \$37 billion. Extra costs to the Medicare and Medicaid programs would be approximately \$12 billion. The elimination of all managed care practices would also result in an increase in the number of uninsured by approximately 6.4 million people. This represents an increase of about 15 percent, exacerbating a major economic and social problem. The reason that a seemingly small elasticity of demand can have such major effects is simple. The elasticity refers to the percentage change in the numbers of those with insurance. But, they are the large majority (82 percent of the non-elderly). Thus, a small percentage reduction in the number of people with insurance causes a large percentage change in the number of people without insurance.

Table 4

**Economic Effects of Changing Selected Managed Care Practices:
Eliminating All Managed Care Practices, 2002-2005
U.S. Aggregate (Year 2000 Dollars)**

	<u>IPA HMO</u>	<u>G/S HMO</u>	<u>PPO/POS</u>	<u>Managed Indemnity</u>	<u>Total</u>
Employer Costs (\$ Billions)					
Private Employers	65.84	34.13	76.79	6.20	182.95
State & Local Government	21.85	11.92	21.47	1.47	56.71
Federal Government	4.13	2.25	7.30	0.00	13.68
Employee Costs (\$ Billions)					
Private Employers	13.49	6.99	15.73	1.27	37.47
State & Local Government	4.48	2.44	4.40	0.30	11.62
Federal Government	0.85	0.46	1.49	0.00	2.80
Other Costs (\$Billions)					
Individual Policies	6.61	3.60	0.98	0.84	12.04
Medicare	0.00	0.00	0.00	0.00	4.41
Medicaid	0.00	0.00	0.00	0.00	7.78
Other Effects					
Increase in Number of Uninsured (Millions)	2.3	1.2	2.7	0.2	6.4
Total Costs (\$ Billions)	117.2	61.8	128.2	10.1	329.5
Employment-Based Costs per Household					3,328.66
Total Costs per Household					3,592.84

2. Eliminating Various Types of Managed Care Practices

The impact of eliminating any one class of managed care practices would also have a substantial impact on healthcare costs and the number of uninsured. We summarize these effects in Table 5.

Table 5

Analysis of the Possible Combination of Effects of a Change in Managed Care Practices: Projected Premium Cost Increases (2002-2005) (Year 2000 Dollars)		
	Elimination of Single Managed Care Practice	Impact on Number of Uninsured
Utilization Review	\$67 Billion	1.4 million
Utilization Management	\$103 Billion	2.1 million
Provider Discounts	\$145 Billion	3.0 million
Total	\$317 Billion*	6.4 million
Selective Contracting**	\$143 Billion	3.2 million

* This figure excludes increased costs to Medicare and Medicaid of about \$12.3 billion.

**Selective contracting comprises pieces of utilization management and provider discounts. That is, the savings attributed to selective contracting are not the sum of utilization management and provider discounts, but are generally a subset of the sum. Thus, the matrix does not analyze combinations of eliminating selective contracting and utilization management or selective contracting and provider discounts because these scenarios would double count some MCO costs.

We use 4 percent as a conservative estimate of the savings due to utilization review. Eliminating utilization review is estimated to be responsible for \$67 billion in extra costs. UR generates relatively modest savings, but it is fairly widespread. Eliminating it would raise household premiums by almost \$8 billion and cause 1.4 million fewer people to lose their insurance coverage.

In our model, utilization management reduces costs by 7 percent for managed care plans overall, zero percent for managed indemnity (by definition), 4 percent for POS/PPO, 8 percent for IPA HMO, and 18 percent for G/S HMO. Eliminating UM would increase costs by \$103 billion. Household premiums would rise by almost \$12 billion. Eliminating UM would cause 2.1 million fewer people to be insured.

Provider discounts are specified to reduce costs by 8.9 percent for managed care plans overall, zero percent for managed indemnity, 8 percent for POS/PPO, 15 percent for IPA HMO, and 8 percent for G/S HMO. Eliminating provider discounts would cause \$145 billion in higher costs. Household premiums would rise by about \$18 billion. Further, eliminating discounts would cause 3.0 million fewer people to be insured.

Not an independent source of savings, selective contracting works through utilization management, provider discounts and lower administrative costs. We specify that eliminating selective contracting alone would raise administrative costs by 2 percent and reduce UM and provider discount savings 3 percent, 9 percent, and 12 percent for POS/PPOs, IPA HMOs, and G/S HMOs, respectively. As described above, these effects cannot be simply added to the extra costs from eliminating provider discounts and utilization management.

Under these specifications, eliminating selective contracting would raise costs for managed-care plans increase by about 7.7 percent overall. Costs would rise by \$143 billion. Household premiums would rise by \$19.0 billion. Further, eliminating selective contracting would cause 2.0 million people to be insured.

D. Costs Not Quantified

Eliminating or hindering managed care imposes other costs on the economy that we have not captured. But these costs are important and excluding them makes our analysis conservative.

First, the inability to use cost containment practices would reduce the competitive pressures that managed care brings to provider markets. This would result in higher costs and prices in healthcare markets generally, be they directly attributed to managed care or not.

Second, higher healthcare costs would affect the macroeconomy as a negative productivity shock, similar in principle to the oil price shock of 1973. Exactly how it would work out in detail (e.g. through monetary policy) is difficult to predict. However, higher healthcare costs are likely to cause a general macroeconomic slowdown, including a decrease in employment.

Finally, there have been claims that managed care practices have lowered the quality of healthcare by reducing usage, but the research on quality and consumers' satisfaction of managed care is mixed. It varies greatly from plan to plan and also across enrollee groups. On average, the quality of care rendered by managed care and non-managed care may not be substantially different,⁷⁸ although more research would be needed to form a definite conclusion and to evaluate any quality versus cost savings trade-off that may exist.

VI. CONCLUSIONS

Recent proposed legislation and lawsuits challenge the basic practices of managed care. These practices, however, are a response to the high and rapidly rising costs that had been caused by traditional indemnity insurance. Employers, government and consumers in the recent past have been switching to managed care. Managed care is widely credited with the unprecedented pause in the growth of health care spending that occurred in the late 1990s. Managed care has been studied in detail and found to substantially reduce costs and premiums and thereby encourage consumers to purchase insurance.

Using our interpretation of the research results, we calculate the effect of eliminating managed care practices on premium costs and the number of people with no insurance. The effects are very large. For example, the extra cost of eliminating all managed care practices for the four-year period 2002-2005 is \$329 billion. This is about 8 percent of private health insurance costs for all health plans and 5 percent of total spending on personal health care over the same period. Eliminating managed care is projected to increase the number of uninsured by 6.4 million people, exacerbating a major political and economic problem. These estimates do not consider spillover effects, such as competition from managed care keeping fee-for-service costs lower or the negative impact on the general economy of high healthcare costs.

⁷⁸ Frech and Langenfeld, (April 2000).