Economic Implications of Defined Contribution Health Plans: Their Impact on Employers, Insurers, Employees, and Healthcare Providers

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Employee health benefits are a major payroll expense for companies that provide them. During the 1980s and 90s, many employers moved workers into managed care programs to control costs. However, the ability of those mechanisms to contain healthcare inflation has run its course. Significant rate hikes in 2002 will cause some large employers to increase employee contributions anywhere from thirteen to twenty percent. Further, new legislation threatens to increase the pace of healthcare inflation and possibly make employers liable for the plans they offer. Therefore, some firms have already turned to Defined Contribution Health Plans (DCHPS) to control health benefit costs and limit their legal exposure. This paper describes two types of DCHPs that have emerged and analyzes their impact on employers, insurers, employees, and healthcare providers. The first type, based on individual Medical Savings Accounts (MSAs) plus group-based catastrophic health insurance, may be workable if forthcoming legislation provides appropriate tax shelter treatment for both employers and employees. The second type, which involves straightforward voucher payments, is unlikely to work because it removes all vestiges of community rating and would therefore leave many classes of workers unable to obtain affordable health coverage.

Employer-based health insurance has been a central element in U.S. compensation systems since World War II. Because of wage controls and severe labor shortages during the war, employers offered healthcare benefits to attract skilled workers. In order to expand the availability of employer-provided health insurance after the war, Congress created tax incentives that allowed employers to treat such benefits as tax-deductible costs. This lowered their corporate income tax liability on such benefits. However, by the turn of the century, the once modest cost of these benefits came to represent a major open-ended expense for many companies. In addition, employers are under pressure from employees dissatisfied with their access to healthcare. Political leaders at both the state and federal levels have responded to this concern by mandating high levels of specific healthcare services and by exposing insurers and employers to increased litigation risks for denial of services. The net effect of such legislation will almost certainly lead to increased health insurance expenses for both employers and their employees.

The initial cost savings realized from the development of managed care organizations in the late 1980s and early 90s also now appear to have run their course. As a result, the cycle of health insurance premium increases are again moving back well above the general rate of inflation (Gabel et al., 2000). Therefore, employers are now looking for alternatives that will allow them to continue to provide healthcare benefits that better control their payroll costs and extricate them from the potential legal liabilities involved in proposed "patient bill of rights" legislation. Such alternative approaches must also retain the tax advantages associated with traditional managed care programs.

One such emerging model is the defined contribution health plan (DCHP). Under the DCHP format, employers no longer directly offer one or more health insurance programs to their employees on a shared-cost basis. They simply provide a fixed-dollar wage supplement (the defined contribution), which employees can then use as they see fit to purchase their own healthcare services. Under this approach, the healthcare incentives and costs

facing various cohorts of employees will undergo significant changes. Although the direct costs to employers may be stabilized, or possibly reduced in the short run (Battistella and Burchfield 1999), the long-run effects are not well understood. In addition, the overall employee cost of obtaining comparable healthcare may actually increase. Alternatively, consumers may elect to forgo many medical encounters, including some cost-effective visits, which may reduce the overall health status of the workforce. Identifying and analyzing such changes that DCHPs may create--for employers, insurers, employees, and healthcare providers--is the subject of this article.

Recent Trends in Employer-based Healthcare Benefits

During the last quarter of the twentieth century, most private and public employers that offered employee health benefits migrated from full indemnity plans toward managed care programs in an effort to contain their rising healthcare costs (Jensen et al., 1997). Under earlier full indemnity health programs, employers, via their insurers, allowed employees to choose their own healthcare providers and simply covered all or most of the costs they incurred on a fee-for-service basis. Co-payments were then introduced to create incentives for employees to help control healthcare expenses.

As employee healthcare costs continued to spiral upward during the 1970s and 80s, employers migrated toward managed care programs in an effort to better control their health-related payroll expenses. Health maintenance organizations (HMOs) emerged as the first major form of managed care. HMOs directed employees toward gatekeeper providers, usually in centralized locations, who in turn controlled healthcare costs by reducing the use of specialists, and other means. Most HMOs received fixed insurance (i.e., capitated) premiums that were either wholly or largely paid by employers. However, during the 1980s and 90s, many employees became disenchanted with HMOs because of the limited service levels and choices of providers they offered. Employers, in addition to having dissatisfied workers, were bearing the brunt of premium inflation rates for HMO coverage at the expense of corporate profits.

To address both employee dissatisfaction and rising cost concerns, preferred provider organizations (PPOs) were then developed to offer employees a wider selection of healthcare providers on a contractually discounted fee basis. In this environment, many large and medium-sized employers, both public and private, now offer their employees a choice of health plan providers and share the rising costs of such plans via a variety of co-payment devices. In fact, many large employers now provide employees a choice of selecting among a number of PPOs, HMOs, or other discounted fee-for-service plans. However, the cost of the least expensive option usually serves as the basis for the employer contribution (a level-dollar contribution). Therefore, employees can select a more expensive and comprehensive and/or flexible plan, and pay the marginal cost out-of-pocket. Although managed care succeeded in providing significant health cost containment benefits for employers in the 1990s, PPO and HMO insurance premiums have again begun to surge well above the level of general inflation (Gabel et al., 2000).

Moreover, companies that continue to provide insurance benefits directly to employees may soon face legal liability. The Employee Retirement Income Security Act of 1974 (ERISA) provided legal protection to companies offering employer-based health insurance coverage. However, in a number of states, legislation has been implemented that imposes new standards on employers and allows employees to sue their employers for injuries resulting from malpractice or denial of care (Battistella, 1998). Numerous service coverage mandates have also been introduced by some legislatures (Jensen and Morrisey, 1999). For example, federal legislation now stipulates that insurers must pay for at least two days of post-partum hospitalization. In addition, the proposed national "Patient Bill of Rights," if passed, will create new administrative requirements, independent medical review hoards, and pecuniary damages for failure to comply with those boards' rulings (Bipartisan Patient Protection Act, 2001). All of these provisions will, by their nature, accelerate healthcare inflation rates. Such increased costs and the potential of anti-employer litigation have added momentum to the DCHPs movement (Battistella and Burchfield, 1999).

Emergence of DCHPs

ERISA legislation was originally intended to expand employee retirement benefits in two ways. First, it provided incentives for more employers to provide benefits. Second, it encouraged a new type of pension plan designed to vest more employees, earlier in their lives, than traditional defined benefit pensions. The new pension arrangement was a defined contribution plan, the most common forms of which are the 401(k), 403(b), and Individual Retirement Account (IRA).

Overall, the new pension plan approach was successful in expanding the number of vested employees in the ERISA workforce, from about thirty percent in 1972 to roughly half of today's workforce. There are two aspects of defined contribution pension plans that may also foreshadow trends in the DCHP market. First, the income replacement rates for defined contribution retirement plans can be lower than those of defined benefit plans, in some cases up to eight percent less for major employers (Abraham and Schneider, 1998). This means more employees now have pension plans, but the cost to employers is more predictable and better controlled. In addition, the risk of managing the pension benefit portfolio has been shifted from the employer to the employee (Patterson, 1999). The net effect of these two changes is that employees need to be well educated about their retirement investment alternatives in order to achieve comparable results to employer-managed defined benefit pension plans.

One major hurdle facing any form of DCHP is that the current tax code needs to mirror the retirement plan model. Two significant changes would have to be made to overcome this hurdle. First, employers would have to be able to pass any defined health contribution to employees as a tax-deductible expense of doing business. Second, if health voucher payments went to employees as taxable income, the employees would face additional income and social security taxes; and the latter would have to be matched by the employer. This adverse tax consequence must also be corrected. If both of these conditions could be met, the tax incentives to employers and employees would be comparable to the status quo in pension plans. Two types of DCHPs have already emerged which are similar to some of the historic innovations in the pension plans described above. One is the Medical Savings Account (MSA), which is similar to the 401(k) and IRA models in many respects (Pallarito, 1997). The other mechanism is a voucher system, where employees are given a fixed sum that is earmarked for health insurance; and they are responsible for going into the market and making the purchase. Each of these mechanisms is discussed, in turn, below.

Medical Savings Accounts and Catastrophic Coverage

Under most proposals, including the current Congressional MSA demonstration plan, individuals or their employers make tax-exempt deposits to MSAs that become the personal property of the employee. Coupled with the MSA is a catastrophic health plan (CHP) that is similar to traditional managed care insurance with a highly elevated deductible amount and much lower premiums. The CHP would probably be offered through the employer, thus retaining the economies of scale and tax benefits associated with such an arrangement.

Employees use the MSA by withdrawing money to pay routine or discretionary medical expenses or purchase additional health insurance without any penalty. Money not spent on healthcare would grow with interest and could be used for future medical expenses. Alternative proposals would broaden the uses of residual MSA funds and would allow them to be used after retirement, rolled over into an IRA, put it into a pension plan, or left as part of an individual's estate.

A federal demonstration program permitted the sale of 750,000 MSA policies from January 1997 through December 2000 in the United States. However, only 54,000 MSAs had actually been sold by December of 1998. Matthews and Strayer (1999) cite five reasons for the low MSA adoption rate among consumers: (1) the initial program was only open to self-employed individuals or businesses with fewer than fifty employees, (2) the time limit discouraged insurers from entering a market that would only exist briefly, (3) the deductibles were set too high ($1,500 for individuals and $3,000 for families), (4) the tax exemption was only applicable to sixty-five percent of the deductible amount for individuals and seventy-five percent for families, and (5) only the employer or employee could contribute to an MSA, but not both. Two other possible explanations for the

slow adoption of MSAs by consumers are their lack of understanding of MSA benefits and a lack of aggressive marketing by insurers (Government Accounting Office, 19 97). However, the House version of the Patient Bill of Rights extends the demonstration two years, increases the tax exemption to 100 percent, and increases the maximum number of employees to 100 percent, potentially resolving some of these issues (Bipartisan Patient Protection Act, 2001).

Voucher Systems

A second type of DCHP program involves the straightforward use of employer paid health insurance vouchers. In the simplest voucher system, each employee is paid a set amount of money annually to purchase health insurance. The workers are then personally responsible for finding an insurance plan that meets their needs. Healthy employees might choose less expensive plans, perhaps putting the difference between the voucher's value and the policy's premium in an MSA for later use. Alternatively, individuals at greater risk might select a more comprehensive plan and supplement the voucher's value with other discretionary income. Regardless of which plan an employee selects, "Vouchers are based on the belief that consumers--not their employers--are in the best position to know what kind healthcare they need and how much they want to spend for it." (Caudron, 2000, p. 35)

Currently, the federal government itself is one of the few large organizations that offers its employees a form of voucher program. The Federal Employees Health Benefits Plan (FEHBP) is very popular and has been touted as a solution to both employee-based insurance and Medicare's problems. Rather than peg the employer's contribution to the lowest-priced plan available, it is set at either the median price of all plans, or the average of the two most expensive HMO options. Under this system, federal employees "tend to be pragmatic in their health selections: inexpensive health maintenance organizations when they're young and healthy, and a plan with good drug benefits after they retire and go on Medicare." (Murray, 2000, p. A1) However, in recent years the FEHBP's average premium has increased dramatically; and 2000 rates were 9.3 percent greater than the prior year (Yoder 1999). Further, few private companies have the resources or the scale to adopt the federal model and negotiate with numerous insurers. Nevertheless, if vouchers or MSA/CHPs become widely available, they will impact employers, insurers, employees, and providers in important ways.

Implications of DCHPs for Employers, Insurers, Employees, and Providers

Analyzing the effects of changing from a system based on defined benefits to one where DCHPs play a major role is, to say the least, complex. One way of viewing such effects is to trace possible changes from the employer contribution through to the actual consumption of healthcare services by employees. Each phase has a number of possible moderating factors that may promote or compromise employers' adoption of such plans. Further, the long-run effects may be different than the short-run effects in some phases of the process.

The following scenario for analyzing the introduction of DCHPs on overall health-care spending is based on four broad questions. First, what is the short-run effect on employer spending for health-related services? The next three questions address the long-run implications of adopting DCHPs. How will changes in employee-insurance company relationships affect the labor market? How are changes in employees' healthcare consumption patterns likely to impact employers under a DCHP paradigm? Finally, what affect will DCHPs have on aggregate healthcare costs?

How Will DCHPs Affect Short-Run Employer Spending?

The most readily apparent change in payment paths between defined benefit plans and DCHPs occurs in the first step. Rather than having the employer act as the employee's agent in dealing with the insurance market, they simply will pass healthcare funds directly to the employee. Initially, employers may either give employees a voucher comparable to the current level-dollar contribution, or they may potentially enjoy a one-time reduction in healthcare payroll expenses through the MSA/CHP model (Battistella, 1998). It is interesting to note that when employee benefit managers were given a specific MSA/CHP model for consideration, "a substantial majority of respondents indicated support," according to a survey by Pauly, Percy, Herring, and Rosenbloom (2000).

In the short-run, compensation wage differential theory posits that any employer savings in healthcare spending would eventually be returned to employees as real wages under the MSA/CHP model (Zabinski et al., 1999). The effects of this are that--absent the aforementioned tax code revision--employers would be moving from a tax-free benefit to a taxable benefit and therefore have to contribute the initial DCHP amount plus taxes, thus increasing total payroll costs. To the extent employees are able to retain some of their MSA funds and transfer them to a pension or some other form of disposable income, this amount may initially be less than their current compensation package (wages plus benefits). Employees who consume large amounts of healthcare under a MSA/CHP, and therefore must purchase extra insurance with taxed wages, would presumably have to receive additional wages to return them to their pre-DCHP defined benefit position. However, awareness of such compensation wage differentials assumes perfect knowledge, and several studies have indicated that healthcare consumers typically lack this level of sophistication (e.g., Nelson et al., 2000; David et al, 2000; Newhouse et al., 1981; Davidson et al., 1992).

Under a voucher system, most employers are not likely to enjoy any one-time savings. Further, if they adopt the FEHBP model and set the voucher's value equal to some percentage of the median price of all plans offered, rather than the lowest priced plan, a one-time increase in costs may occur. In addition, employers may choose to administer the plan by contracting with a third party "Qualified Health Benefit Purchasing Coalition" to overcome the loss of community rating inherent in offering only a couple of plans. The current House version of the Patient Bill of Rights establishes provisions for the development of such organizations. However, using such a purchasing coalition adds an additional administrative expense and will increase the cost of insurance.

How Will Changes in the Employee--Insurance Company Relationship Affect Labor Markets?

The employee-insurance company relationship will be a significantly different paradigm than the current employer-insurance company model. The search, negotiation, and acceptance of plans will all be different. Each of these aspects is considered in the order they typically occur.

Addressing the voucher model first, the change in the scale of the participants will greatly affect the system. First, consider the cost to the searcher, or employee, for their time spent searching. Because, they lack the time or ability to compare every group plan in the market, the way many employers do, it is likely that they will make suboptimal purchase decisions and either pay more or receive less services than under the traditional model. Individual employees will also lack the leverage that large employers enjoy and therefore will likely pay a higher price for the same services their employer could have purchased on a group basis. In addition, there is evidence that employees appreciate the role their employer plays as agent (Peele et al., 2000). This may give employers providing traditional defined benefit plans an advantage in competing for employees in tight labor markets, compared to those offering vouchers. Alternatively, companies offering defined benefit plans may attract less healthy workers or those with larger families, thus experiencing an adverse selection effect and increased healthcare costs.

A potential concern for employers of moving to a pure voucher system is that alternative purchasing models administered by labor unions may arise under the aforementioned purchasing coalition provision of the proposed Patient Bill of Rights. Unions possess the necessary infrastructure and organizational skills to support such programs. Further, unions may adopt the issue in the hopes of unionizing businesses that are currently non-unionized. The potential cost of this phenomenon to employers without union contracts could be considerable in both real wages and management freedom. Union workers typically earn a twenty percent premium compared to non-unionized employees (Batt 2001). Further, strong unions can impinge upon management's operational autonomy and may do so by demanding a return to defined benefit health insurance plans. Therefore, employers could potentially end up with a more heavily unionized workforce, without having divested the high cost and legal liabilities associated with defined benefit health insurance plans.

Under the alternative MSA/CHP model, search costs, economies of scale, and adverse selection problems are all less serious than under a pure voucher system. First, the CHP part may continue to be offered through the

employer, thus optimizing the search effort. In addition, keeping MSA/CHPs with the employer maintains current scale economies and negotiation effects, as they exist today. Doing so also benefits both the employees and insurers. From an insurance company's perspective, the adverse selection problem is kept in check, and perhaps ameliorated, to the extent that individuals must first exhaust their own discretionary health funds. From the employee's perspective, the problem of purchase decision sub-optimization is also mitigated because the effect is not felt unless they exceed their deductible and use the catastrophic coverage.

There is a third scenario where employers offer multiple plans, including both traditional plans and an MSA/CHP option. In this situation, insurers could face greater market segmentation (Pauly et al., 2000). Because MSA/CHPs will logically draw the relatively healthy workers, traditional plans will experience adverse selection, leading them to increase their premiums. As premiums in regular health insurance plans increase, more people will then be induced to take the less expensive MSA/CHP option. This cycle of segmentation that crowds out low-deductible indemnity plans has been referred to as a "death spiral" (Pauly and Herring, 2000). If the death spiral scenario occurs, those employees who consume the greatest amount of healthcare services will either face greater financial exposure or have to alter their behavior, as discussed below.

What Affect Will DCHPs Have on Employee Healthcare Consumption Patterns?

Moving from traditionally defined benefit plans to DCHPs should remove many of the moral hazards or incentives for individuals to over-consume health services they would not normally have consumed had they been using their own disposable income. Therefore, they will presumably consume less. However, from a workers' health perspective, reductions in the consumption of important preventive services, such as annual physicals, immunizations, and cancer screening, may also lead to less healthy populations of employees and increased sick days.

Another way in which moral hazards are created in traditional defined benefit plans is through cross subsidization. Most managed care programs supported by employers implicitly force healthy single and young nonsmoking employees to subsidize the health costs of older employees, those with large families, smokers, and chronically ill workers. This occurs because traditional co-payment plans almost never adjust the employee's share of health plan costs based on age or the employee's health habits and history. Because older and chronically ill employees impose disproportionately high costs on health programs, while paying the same flat-rate fees, an intercohort subsidy exists. Also, most healthcare programs--as opposed to life insurance policies--do not charge smokers more for their coverage, even though their absenteeism and sickness costs exceed those of non-smokers. The non-smokers, therefore, subsidize the smokers. Moreover, even though workers with covered families typically pay somewhat higher co-payments than single employees, the family payment charges are rarely adjusted on a specific size-of-family basis. This provides a cross subsidy to large families at the expense of small families. Even if employers pay family-head employees more than single employees, most such inter-cohort subsidies are diminished or disappear when a straightforward flat health benefit payment is made to employees in lieu of community-rated managed care plans.

In the broadest terms, the elimination of such cross-subsidies promotes two desirable outcomes for employers, but it produces both adverse and positive consequences to society as well. First, because families will face the full healthcare cost of every additional member, the incentive will be to have fewer children (Leibowitz, 1990), thus reducing the concomitant maternity benefits and costs that employers now pay that segment of the workforce. The downside to this, from a societal perspective, is that families in the best position to support children are economically deterred from doing so. Second, the struggle to get Americans to adopt healthy behaviors has to date relied solely on the intrinsic benefit of an improved quality of life. Under a DCHP system where employees interact directly with their insurers, it seems likely that the insurers would provide monetary disincentives, via elevated premiums, for unhealthy behaviors such as smoking, drug abuse, and so on. Further, insurers might also penalize individuals for secondary indicators of unhealthy behaviors such as a sedentary lifestyle or poor diet by screening for obesity and elevated cholesterol levels. Improving any of these factors would be beneficial to employers from a lost productivity perspective, but only to the extent that affected

employees would actually respond to higher healthcare costs by adopting healthier lifestyles. Further, this potential benefit is consistent with society's goal of having healthier and more productive individuals.

How Will DCHPs Affect Healthcare Inflation?

Healthcare providers, physicians in particular, drive most health related expenditures--whether it is via a hospital admission, writing a prescription, or conducting an outpatient visit. They do this via their decisions to administer various levels of care. In addition, they are very unhappy with the status quo of managed care health insurance. Employer-based insurance has been derided by healthcare providers for limiting choice and interfering with the physician-patient relationship. For example, Nancy Dickey, a past president of the American Medical Association (AMA), stated that, "our plan for health system reform has four primary goals: expanding choice, individual selection and ownership of healthcare plans, defined contributions to fund these options, and developing an approach for making it happen" (1998, p. 1045). Therefore, it seems likely that many healthcare providers would welcome the DCHP alternatives discussed thus far.

A potential benefit of having employees directly pay for services is that healthcare providers would no longer be forced to serve as the agents for themselves, insurers, consumers, and employers. Under the current third-party payer system, there is little real incentive for providers to contain costs. Instead, insurers "manage" care through a variety of utilization review and gatekeeper mechanisms. One potential benefit of putting employees directly in the payment path, via DCHPs, is that some physicians may return to means-testing on an individual basis. Prior to the introduction of Medicare and Medicaid, physicians often made use of sliding-fee scales based on a patient's ability to pay (Epstein, 1997). Such a change might remove a significant part of the agency problem, encourage more cost effective practice patterns, and keep healthcare inflation more in line with general inflation. The MSA/CHP model seems particularly well suited to addressing such agency problems.

Conclusions

Based on the foregoing, it appears the widespread adoption of DCHPs would generate a major shift in the current employer-based health insurance system. Assuming the tax incentive issue will be favorably resolved, the two alternatives described, vouchers and MSA/CHPs, have significantly different implications for employers. As noted above, the voucher system has several inherent limitations that need to be resolved, while the MSA/CHP model has some promise.

The implementation of pure voucher systems on a wide basis would probably lead to an increased number of employed, but uninsured Americans. This phenomenon would occur because the value of vouchers, if pegged to general inflation or the consumer price index, would not keep pace with health care inflation. The employee would then face the cost difference between the voucher's value and the price of health insurance using after-tax income. Many employees would find this expense either prohibitive or of less value than other discretionary expenditures. If voucher values are not pegged to the least expensive plan, the incentive is to maximize the employer's payment because the individual does not face the full marginal cost of more expensive plans. This phenomenon has been evident in the Medicare program, where individuals purchase Medi-gap insurance because they only pay a fraction of the actual cost of services rendered and Medicare pays the balance. This in turn leads to increased utilization and inflation. Such a cycle of inflation may cause more small employers to drop healthcare benefits altogether as they became prohibitively expensive.

Alternative models, where third-party entities create large risk pools and where employees select a plan subsidized with employer funds, may mitigate this problem and increase consumer choice. Further, such a model could shield employers from litigation, but at the cost of another layer of administrative expense. Failing to overcome these limitations and leaving more Americans uninsured may also lead to more strident calls for a national health insurance plan, as well as placing greater strains on state-run safety-net programs.

Making a voucher system feasible would require extensive revision of tax codes at both the state and federal level to maintain the status quo of employer based health insurance. Given the difficulty of enacting the Patient's Bill of Rights, which is modest by comparison, voucher insurance mechanisms seem unlikely to

resolve employers, insurers, providers, or employees' concerns with the current systems of managed care, at least in the short run.

If MSA/CHP insurance were introduced on a wide scale, it would probably displace other forms of insurance as healthy workers opted in, leaving only the riskier employees in the defined benefit plans. The cost of those plans would increase accordingly, forcing more and more people into the MSA/CHP model. Nevertheless, the reduction of agency problems among providers, via the MSA/CHP approach, may help correct the market failures that have, on average, kept healthcare inflation rates above those of general inflation over the past twenty years.

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