Twenty-Four-Hour Coverage And Workers' Compensation Insurance

by Laurence C. Baker and Alan B. Krueger

Abstract: Workers’ compensation insurance provides cash benefits and health care for workers who are injured on the job. This DataWatch considers the costs and benefits of combining the health insurance component of workers compensation with universal health insurance, creating a twenty-four-hour coverage plan. The paper documents a large potential savings from twenty-four-hour coverage: Workers’ compensation medical charges are about twice as high as those for comparable off-work injuries. This disparity seems to result from price discrimination and lack of cost controls in workers’ compensation. Twenty-four-hour coverage, however, may be difficult to implement.

Several proposals for universal health insurance would integrate the medical component of workers’ compensation insurance and auto insurance with a new universal health insurance plan. These schemes are typically called “twenty-four-hour coverage” plans because individuals would be covered by one health insurance plan around the clock, regardless of the origin of their impairment. Here we explore the costs and benefits of rolling the health insurance component of workers’ compensation insurance in with health insurance for off-work injuries.

Workers’ compensation is a network of state-run programs that provide medical care, indemnity benefits, and rehabilitation services to workers who suffer a work-related injury or disease. The cost to employers of providing workers’ compensation is estimated at $62 billion for 1991; medical costs accounted for nearly 40 percent of the total spent.¹ Workers’ compensation plans in all states prohibit firms from charging a copayment or deductible for medical care reimbursements, and there is typically no dollar limit on the total amount of medical care. The rapidly rising cost of providing medical care under workers’ compensation has drawn increased attention in recent years. Between 1980 and 1987 medical expenditures in workers’ compensation insurance increased by 151 percent, compared with 102 percent for medical expenditures generally.² As a consequence, and quite, independently of universal health insurance proposals, several state legislatures have considered moving to some version of twenty-four-hour

Laurence Baker is a doctoral student in the Department of Economics, Princeton University. Alan Krueger is Bendheim Professor of Economics and Public Affairs at Princeton.
coverage to control workers’ compensation costs.

The typical state twenty-four-hour coverage plan would roll the medical component of workers’ compensation into traditional employer-provided health insurance for off-work injuries. Most twenty-four-hour coverage plans also permit employers to use coinsurance and deductibles for work-related injuries. The indemnity portion of workers’ compensation would not change. Legislation authorizing implementation of such coverage has been passed in a handful of states, including Florida, Georgia, Maine, and Massachusetts, and several other states have been studying this issue. However, twenty-four-hour coverage has not yet been implemented in any state, suggesting that substantial administrative and/or political barriers exist.

Based on our analysis, the potential benefits of twenty-four-hour coverage stem primarily from improved economic and administrative efficiency. However, there are political and initial administrative costs of design and implementation to consider. It should also be emphasized that the potential saving is small compared to overall health expenditures. Workers’ compensation medical expenditures amount to less than 3 percent of total national health care spending. Therefore, while twenty-four-hour coverage could greatly reduce workers’ compensation costs, we caution that one cannot expect a great reduction in the share of gross national product (GNP) devoted to health care. Nevertheless, incorporating twenty-four-hour coverage in universal health insurance proposals may draw the support of employers, thereby aiding health system reform efforts.

**Proposed Twenty-Four-Hour Coverage Plans**

A range of proposals for twenty-four-hour coverage have been considered by state legislatures in the past few years. In 1989 Florida was the first state to pass a law permitting employers to meet the medical portion of their workers’ compensation obligations by providing medical coverage under a twenty-four-hour health plan. The coverage provided must, with the exception of permitted copayments and deductibles, meet the standards set in the existing workers’ compensation law. Florida firms that opt into the twenty-four-hour coverage plan are prohibited from charging workers for any portion of premiums for off-work health insurance. Georgia and Maine have passed similar legislation. In 1991 Massachusetts passed legislation authorizing the development of a twenty-four-hour coverage pilot program. Although the program design is not complete, it appears to allow employers to opt for twenty-four-hour coverage to satisfy workers’ compensation requirements. The plan will also contain utilization review procedures.

Twenty-four-hour coverage has also been proposed in the context of universal health insurance plans. Notably, California Insurance Commis-
sioner John Garamendi has proposed a universal health insurance program based on managed competition that would include coverage for work- and automobile-related injuries. Since this could result in reduced coverage for some workers, an increase in disability benefits would be offered to compensate. The incentive for employers to maintain a safe workplace, now reflected in workers’ compensation premiums through experience rating, would be maintained because health premiums would reflect the incidence of workplace injuries. The overall plan calls for use of managed care and would include “modest” copayments but no deductibles. Implementation of this form of twenty-four-hour coverage could save an estimated $1 billion by reducing administrative and legal expenses, diminishing fraud and abuse, and implementing cost containment.³ Twenty-four-hour coverage provisions have been included in other managed competition proposals.⁴

**Potential Benefits**

It ‘costs more to provide health care to workers’ compensation patients than, to other patients, holding constant the extent of injury, use of services, and personal characteristics of patients. These higher costs are likely to result from two sources: price discrimination and comparatively less search for low-cost services by workers’ compensation patients.

**Reduction in price discrimination.** A reduction in price discrimination ‘appears to us to be the main benefit of twenty-four-hour coverage.⁵ Because the medical component of workers’ compensation historically has been a small portion of the total cost and because employers and insurers usually have not scrutinized or challenged these medical expenses, price discrimination may be commonplace. The financial incentives in workers’ compensation tend to lower the elasticity of demand for medical care. It appears that health care providers know that workers’ compensation recipients are not sensitive to the price of medical services and therefore can be charged more. In spite of regulation to outlaw such overt price discrimination, it does in fact occur. Moreover, to avoid overt price discrimination, providers may engage in procedure upgrading (for example, bumping a basic office visit up to an intermediate office visit) to increase the amount of the bill. If price discrimination is rampant, there is potential for large cost savings by moving to a twenty-four-hour coverage system.

Two previous studies, in Minnesota and California, have attempted to measure cost differences between workers’ compensation and standard health insurance.⁶ The Minnesota study concluded that workers’ compensation claimants incurred higher medical costs than did claimants for non-work-related causes. In contrast, the California study found no difference in hospital inpatient costs between the two claimant groups. We reanalyzed
the Minnesota data to probe the robustness of the results and to try to reconcile the seemingly conflicting findings for the two states. In our analysis we conclude that workers’ compensation cases are more costly to treat than equivalent cases covered by standard health insurance plans.

Exhibit 1 illustrates the percentage difference between charges for workers’ compensation claimants and Blue Cross claimants for various injury types based on the Minnesota sample.7 Workers’ compensation claimants are charged on average about 110 percent more than Blue Cross claimants. We also find that charges per service are higher for workers’ compensation claimants: In particular, x-ray charges by physicians are 20 percent higher, and x-ray charges by chiropractors are 52 percent higher. Although other factors may also contribute to the high cost of treating workers’ compensation cases, we suspect that price discrimination is an important phenomenon. The California study was limited to inpatient charges. Interestingly, we also find no difference between workers’ compensation and Blue Cross cases if we restrict the Minnesota sample to hospital inpatient services.

In 1988 workers’ compensation medical and hospitalization expenditures were $11.4 billion.8 We estimate that, on average, workers’ compensation charges are over twice as high as those for comparable off-work injuries in Minnesota. If this price differential holds generally, we predict that eliminating price discrimination would reduce workers’ compensation expenditures by almost $6 billion.

**Search for low-cost medical care.** Because all medical costs are covered under workers’ compensation insurance and because recipients have no deductibles or coinsurance, workers have little incentive to search for a low-cost provider. This also may make workers’ compensation cases more expensive to treat. Introducing twenty-four-hour coverage likely would

---

Exhibit 1

Percentage Cost Differential Between Workers’ Compensation Cases And Blue Cross Cases In Minnesota, By Type Of Injury

<table>
<thead>
<tr>
<th>Percent cost differential</th>
<th>150</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>110.6 133.7</td>
</tr>
<tr>
<td>50</td>
<td>71.1 27.6</td>
</tr>
<tr>
<td>0</td>
<td>23 42 101</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All injuries</th>
<th>Back injury</th>
<th>Contusion</th>
<th>Eye injury</th>
<th>Fracture</th>
<th>Laceration</th>
<th>Sprain/strain</th>
</tr>
</thead>
<tbody>
<tr>
<td>110.6</td>
<td>133.7</td>
<td>71.1</td>
<td>27.6</td>
<td>23</td>
<td>42</td>
<td>101</td>
</tr>
</tbody>
</table>

Source: Authors’ calculations.
Note: Differentials have been adjusted for injury type, injury severity, age, gender, provider mix, services received, and geographical area.
give these patients a stronger incentive to seek out low-cost care.

**Utilization/moral hazard effects.** If coinsurance and deductibles (currently prohibited under workers’ compensation rules) were introduced, injured workers would have a greater incentive to use medical care efficiently. As the RAND Health Insurance Experiment showed, the introduction of coinsurance and deductibles discourages patients from overusing health care because there is no marginal cost (known as “moral hazard”). Moral hazard problems also exist on the part of health care providers. Providers may perform services for patients covered by workers’ compensation that they would not otherwise perform. From an economic standpoint, the lack of coinsurance and deductibles causes a welfare loss because most employers and employees would voluntarily choose to include such cost-control devices.

The introduction of coinsurance and deductibles (as well as other cost control devices) is not a strong reason for adopting twenty-four-hour coverage, since they could be added to existing workers’ compensation programs. However, for political reasons, states have been reluctant to introduce coinsurance and deductibles without providing something extra for workers, which has typically been twenty-four-hour coverage. Of course, one could argue that workers would benefit from more efficient workers’ compensation health care—employers’ costs would go down and wages and employment could rise—but this argument has proved difficult to sell.

**Improved delivery of care.** Combining workers’ compensation with other health insurance plans would enhance the potential to use greater utilization review and other managed care tools to treat work-related injuries. This in turn may lead to substantial cost savings.

**Reduced administrative and legal costs.** Combining workers’ compensation and health insurance could save money because of scale economies and administrative streamlining. The potential for economies of scale exists in the insurance market; from the employer side, only a single plan would require negotiation and monitoring. Twenty-four-hour coverage would reduce the potential for intentional and unintentional double billing stemming from separate administration of workers’ compensation and health insurance plans. However, insurance industry representatives have told us that, they expect the administrative savings to be small.

Twenty-four-hour coverage also could save administrative and legal costs associated with determining whether an injury or illness “arose out of and in the course of employment.” About 8 percent of workers’ compensation claims are controverted. A great many resources are wasted trying to determine whether a claim results from a legitimate work-related injury or illness. Twenty-four-hour coverage would make this distinction unnecessary for medical reimbursement. It is important to note, however, that even
under twenty-four-hour medical coverage, substantial administrative and legal costs would remain. Cases with indemnity claims would still require administrative processing and may have legal involvement. In addition, the Occupational Safety and Health Administration (OSHA) requires a determination of whether an injury or illness is work related.

Exhibit 2 shows the distribution of workers’ compensation medical costs by type of claim. Only 13-17 percent of workers’ compensation medical costs are due to medical-only cases, and only a small portion of these are litigated. As a result, there likely will be relatively little efficiency gain from the reduced litigation that should accompany twenty-four-hour coverage.

**Reduction in medical testing.** In part, injuries covered by workers’ compensation may be more costly to treat because additional procedures are performed to document that an injury is work related. The introduction of twenty-four-hour coverage could result in cost savings because these procedures would no longer be necessary, since all treatment would be covered by the same health plan. Some incentive for additional tests would remain, however, because of possible litigation over indemnity benefits.

**Fewer indemnity claims.** Evidence suggests that some workers apply for workers’ compensation benefits because they want it to cover their health care costs incurred for off-work injuries.\(^{10}\) Twenty-four-hour coverage will discourage some workers from doing this, because medical benefits under workers’ compensation are more generous than their private health insurance plan, or because they have no private coverage. Reducing these claims should cut the cost of indemnity benefits. On the other hand, if many workers who currently apply for workers’ compensation benefits are also covered by other health insurance, we would not expect twenty-four-hour coverage to greatly reduce the number of indemnity claims.

Using data on workers’ compensation recipiency and health insurance coverage in 1990 from the March 1991 Current Population Survey (CPS),

<p>| Exhibit 2 |
| Percentage Of Total Workers’ Compensation Medical Costs, By Type Of Claim And Year, 1978-1988 |</p>
<table>
<thead>
<tr>
<th>Type of claim</th>
<th>1978-1979</th>
<th>1987-1988</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical only</td>
<td>17.4%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Temporary total</td>
<td>27.7</td>
<td>28.0</td>
</tr>
<tr>
<td>Permanent partial (minor)</td>
<td>23.4</td>
<td>15.9</td>
</tr>
<tr>
<td>Permanent partial (major)</td>
<td>27.2</td>
<td>37.5</td>
</tr>
<tr>
<td>Permanent total</td>
<td>3.6</td>
<td>5.4</td>
</tr>
<tr>
<td>Fatality</td>
<td>0.6</td>
<td>0.6</td>
</tr>
</tbody>
</table>

**Source:** Authors’ calculations based on National Council on Compensation Insurance. Countrywide Workers’ Compensation Insurance Experience. Data for 1978-1979 are on fifth report basis; data for 1987-1988 are on an ultimate report basis.
we estimate that 27 percent of workers who received workers’ compensation payments in 1990 lacked private health insurance. On the other hand, some, 23 percent of workers, who did not claim workers’ compensation benefits lacked private health insurance. These figures suggest that a great many of the uninsured do not seek workers’ compensation benefits for offf work injuries. Nevertheless, under a twenty-four-hour coverage system workers will have less of an incentive to apply for workers’ compensation benefits for off-work injuries, and this could save indemnity costs.

**Potential Costs**

The principal costs of twenty-four-hour coverage are the administrative costs associated with designing and implementing such a program. Most importantly, it will be difficult to harmonize workers’ compensation insurance and health insurance. Although these are largely one-time costs, they may be significant. However, many of the harmonization issues will be less important if twenty-four-hour coverage is enacted in the context of universal health insurance.

**Experience rating.** Workers’ compensation and health insurance premiums for most employers are based at least in part on their experience. With separate programs, experience rating is done separately, and under some universal health insurance plans the work-related component of costs may be excluded from employer costs. However, a move to community rating, as is proposed in leading reform initiatives, will make it difficult to make employers internalize the medical costs of work-related injuries. There is a strong rationale for experience rating workers’ compensation because it is efficient for firms’ production costs to reflect their social costs, including the medical and indemnity costs associated with work-related injuries. The introduction of twenty-four-hour coverage would require redesign of the experience rating of workers’ compensation. Most likely, experience rating adjustments will depend solely on indemnity costs, and thus firms’ premiums will not reflect the total social costs of work accidents.

The cost from this change would probably be small, however, because we estimate that the correlation between medical costs and indemnity costs for a sample of claims is around 0.60. The correlation should be even higher if firm-level data, not claim-level data, are used. Given the high correlation between indemnity and medical costs, experience rating adjustments based on past indemnity costs would retain most of the desired incentive effect.

**Specialized workers’ compensation carriers.** Some workers’ compensation carriers do not offer health insurance plans for off-work medical claims. At least in the short run, this will affect the ability of these firms to compete with those that provide both types of insurance. Consequently,
the workers’ compensation market may become less competitive, causing premiums to increase. In the long run, we suspect that carriers that offer workers’ compensation exclusively will team up with health insurance carriers and offer joint packages. Since a large share of the market is written by firms that do offer health insurance, we suspect that this is not a major concern. A related issue is that even in firms that offer both kinds of insurance, the two markets are generally segmented within the firm. Thus, insurance firms will have to bear nontrivial transaction costs to coordinate the two wings of their operations.

**Coverage rules.** Different rules historically have governed which workers and injuries are covered under workers’ compensation and private health insurance. For example, workers’ compensation covers all employees for all injuries from the moment they begin work and for the duration of any injury. Traditional health insurance often requires an initial waiting period, may exclude certain employees and restrict the extent of coverage, and covers injuries on a calendar year basis. Design of twenty-four-hour plans that integrate these two structures to the satisfaction of employees, employers, and state regulators may be difficult and costly. We note that a move to universal coverage will make these issues irrelevant because all individuals would be covered by health insurance, around the clock.

**Injury/illness distinction.** Some proposed state twenty-four-hour coverage plans would cover work-related injuries but not work-related illnesses, which would continue to be covered by workers’ compensation insurance. If these plans are implemented, we suspect that there will be a growing number of disputes over whether a particular infirmity should be classified as an injury or as an illness. Treating injuries and illnesses differently would increase administrative and legal costs, but these additional costs likely would be small since the number of illness cases filed in workers’ compensation is relatively small. Moreover, it is reasonable to suspect that universal health insurance—if it is passed—will cover both injuries and illnesses.

**Political Concerns And Recommendations**

Implementation of twenty-four-hour coverage has been hamstrung by a number of political and administrative factors, not the least of which has been a general lack of knowledge about how to construct a program. The result has been legislation that fails to address the concerns of the insurance industry, employers, or state administrators. For example, implementation of Florida’s law has been delayed until amendments can be passed by the legislature to address several concerns, including assurance that the exclusive remedy feature of workers’ compensation would not be jeopardized. More research is needed to help avoid some of these problems.
As it currently stands, the Employee Retirement Income Security Act (ERISA) may present an important legal roadblock to state action. ERISA preempts states from regulating employee benefit plans but grants exemptions solely for the purpose of meeting state workers’ compensation statutes. However, at least two state attorneys general have concluded that if twenty-four-hour coverage were introduced, the benefit plan would be deemed too broad to fit under ERISA’s exemption clause. If this occurred, the States would have to cede to the federal government the right to regulate the medical portion of workers’ compensation falling under the twenty-four-hour coverage programs. Few if any states are willing to do this.

Although the full impact of ERISA on twenty-four-hour coverage has never been tested in the courts, the possibility of problems may frighten potential proponents and slow down the work of those attempting to push new, programs forward. One important step toward implementation of twenty-four-hour coverage would be to clarify the relevance of ERISA to these plans and offer waivers if necessary.

It has also been difficult to get a solid constituency behind twenty-four-hour coverage. Insurers, who view the arena of twenty-four-hour coverage as complicated and uncertain, have been slow to give their support even though the plans present them with an additional product and a new market. Similarly, employers, who perhaps have not seen the full benefits of twenty-four-hour coverage or fear that its adoption would cost them in other ways, have also been reserved with their support. Some employers fear that the exclusive remedy guaranteed under workers’ compensation would be eroded under twenty-four-hour coverage.

Workers’ Compensation And Managed Competition

A different set of issues is involved in the design of a twenty-four-hour coverage program in the context of universal health insurance using managed competition. Where health care is provided under a managed competition plan using health insurance purchasing cooperatives (HIPCs), the HIPCs could also be used to implement twenty-four-hour coverage. With HIPCs in place, a framework for negotiation of policies that include twenty-four-hour coverage components would exist. In principle, twenty-four-hour coverage would simply become a part of the whole health care process. Negotiations with multiple insurers would determine the supplier or suppliers of insurance, which would then be channeled to employers or others through the HIPC. Twenty-four-hour coverage would provide the same coverage as offered by the remainder of the health plan, including any copayments, deductibles, or managed care. This would require that any basic benefit package provided include sufficient coverage for treatment of
all work-related injuries. Implementation through HIPCs also provides an excellent opportunity to bring universal budgeting to bear on costs. Since much of the workers’ compensation health care budget would be spent through HIPCs, caps on workers’ compensation spending could be made a part of overall budgets and implemented through the HIPCs.

Specifically, we envision the federal government taking a lead role in promoting twenty-four-hour coverage to the states. Since workers’ compensation historically has been a responsibility of the states, the federal government should not attempt to force states to adopt twenty-four-hour coverage, although some incentives may be in order. One approach would be to have the federal government enact universal coverage that includes twenty-four-hour coverage for workers’ compensation, but then allows the states to opt out of the federal plan in favor of their current plan. This would, in effect, make twenty-four-hour coverage the default and give state legislatures an option to continue with their old program. In addition, the federal government could mandate two things: (1) in states that choose to adopt twenty-four-hour coverage, HIPCs must offer only health plans that contain twenty-four-hour provisions; and, (2) if appropriate, all employers in participating states must obtain twenty-four-hour coverage for their workers. Some precedent for this type of federal mandate exists in OSHA. Another role for Congress would be to modify ERISA requirements so that states could oversee twenty-four-hour employer coverage plans.

Since a number of states have already been pursuing twenty-four-hour coverage as a way to control rising workers’ compensation costs, we suspect that many would participate in such a federal program. Other states may choose to take part if they see lower costs in participating states. Each state would maintain control over the other parts of its workers’ compensation law, including indemnity coverage and tort provisions. This would allow individual states to best meet the needs of their workers.

Under a reformed health system, employees who currently receive no health coverage other than workers’ compensation would benefit from improved coverage. Others who now receive both workers’ compensation and health insurance could have their coverage reduced, in that they may use managed care and/or be responsible for additional costs in the form of copayments, deductibles, or cost sharing.

Some benefits would accrue to all employees. From evidence on compensating differentials, employees would likely benefit from an increase in their wages. In addition, all workers would benefit from less hassle involved in filing a claim for a work-related injury. However, since we expect workers who already have health insurance to oppose a move to twenty-four-hour coverage if it involves coinsurance and deductibles for work-related injuries, additional incentives may have to be offered to employees. One
possibility would be to follow the Garamendi proposal by suggesting an increase in indemnity benefits to compensate for cost containment devices for medical benefits. In particular, we would recommend increasing the level of benefits paid to workers who suffer especially severe injuries.

We are grateful to Keith Bateman, John Burton, Paul Starr, Roger Thompson, and Brian Zaidman for helpful discussion and comments. We also thank Zaidman for making data on medical costs available to us. Alan Krueger acknowledges financial support from an Alfred P. Sloan Fellowship.

NOTES

4. See, for example, P. Starr, The Logic of Health Care Reform (Knoxville, Tenn.: Whittle Direct Books, 1992).
6. B. Zaidman, “Industrial Strength Medicine: A Comparison of Workers’ Compensation and Blue Cross Health Care in Minnesota” (Minneapolis: Minnesota Department of labor and Industry, 1990); and California Workers’ Compensation Institute, “Hospital Utilization in Workers’ Compensation” (San Francisco: CWCI, April 1992).
9. This figure is taken from Minnesota Department of Labor and Industry, “Dispute Resolution in the Workers’ Compensation System” (Report to the Legislature on Workers’ Compensation in Minnesota, Background Research Studies, 1988).
11. We calculated the correlation between medical and indemnity payments for a large sample of workers’ compensation claims in Arkansas, North Carolina, and Oregon using data from the Supplementary Data System Microdata Files for 1986.
12. Bateman, “Twenty-Four Hour Coverage.”