Biopsychosocial law and healthcare reform: The effects of economic recession on interdisciplinary treatment cost

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Previous studies have documented the appearance of a new social construct, that of biopsychosocial laws, which mandate interdisciplinary care for medical patients (Bruns, Mueller and Warren, 2010). Biopsychosocial laws are the product of changing concepts in medicine, psychology and law, which are converging in medical treatment guidelines that view patients not as having separate minds and bodies, but instead view patients from a biopsychosocial perspective.

A previous study examined the effects of a biopsychosocial law in Colorado, which mandated the use of biopsychosocial treatment guidelines for injured workers and required an interdisciplinary approach (Bruns, Mueller and Warren, 2012). This study compared medical costs associated with 520,314 injured workers in Colorado treated under these guidelines to an estimated 28.6 million injured workers nationally. As only Colorado used these guidelines and associated regulatory procedures, this created a natural experiment where a treatment group was created by legally enforceable medical treatment guidelines. In the 15 years following the implementation of the reform, the inflation of medical costs in Colorado workers' compensation was only one third that of the national average, saving an estimated $859 million on patients injured in 2007 alone. The results of this study, while supporting the biopsychosocial model, left a number of important questions unanswered. One of these was that in order to control for the confounding economic effects of the so-called "great recession", this study did not examine data after 2007. As a result, the effects of recession on trends in interdisciplinary treatment costs remain unknown.

Recessions are known to have complex effects on medical costs, and worker compensation costs may be especially vulnerable to these economic trends. One of the reported reasons for this are shifts in so-called "moral hazard" effects. Moral hazard effects refer to complex economic incentives (including "secondary gain") that can influence treatment outcome and treatment costs. Some of these incentives are as follows: First of all, during a recession patients may be more incentivized to remain on disability, due to the lack of available work. Secondly, patients may be incentivized to consume more worker compensation medical services, due to the loss of other insurance benefits. Third, during a recession medical caregivers may also experience increased economic pressures and so may be incentivized to provide more medical services. In combination, these positive moral hazard effects could paradoxically increase inflationary pressures in medical treatment costs during periods of economic stagnation or deflation.

A fourth, reverse (negative) moral hazard effect may occur when during a recession, payers increase their efforts at restricting medical and disability expenditures through various cost containment strategies. Finally, an additional reverse effect is that during a recession, workers may not report injuries due to fear of job loss. These actions could offset the positive moral hazard effects.

The impact of a recession on the economics of interdisciplinary medical treatment has never been studied. However, we hypothesized that positive moral hazard effects would outweigh negative ones in the short term. This was based on the premise that the positive moral hazards effects in this scenario are the product of individual behaviors which could change quickly. In contrast, the negative moral hazard effects of cost containment are institutional responses to economic trends, and these are more likely to develop over time. If true, this could lead to a paradoxical spikes in medical inflation during periods of economic recession.

REFERENCES

1. Bruns, D., & Disorbio, J. M. (2009). Assessment of biopsychosocial risk factors for medical treatment: a collaborative approach. *J Clin Psychol Med Settings, 16*(2), 127-147. doi: 10.1007/s10880-009-9148-9
2. Bruns, D., Mueller, K., & Warren, P. A. (2010). A review of evidence-based biopsychosocial laws governing the treatment of pain and injury. *Psychological Injury and Law, 3*(3), 169-181.
3. Bruns, D., Mueller, K., & Warren, P. A. (2012). Biopsychosocial law, health care reform, and the control of medical inflation in Colorado. *Rehabilitation Psychology, 57*(2), 81-97.
4. Bruns, D., & Warren, P. A. (2011). The assessment of psychosocial contributions to disability. In P. A. Warren (Ed.), *Handbook of Behavioral Health Disability* (pp. 73-104). New York: Springer.
5. National Council on Compensation Insurance. (2010). Policy year underwriting results using data valued as of December 31, 2010. Boca Raton, FL: National Council on Compensation Insurance.

METHODS

This study replicated the method in the previously published study of the economic effects of a biopsychosocial law (Bruns, Mueller and Warren, 2012), and applied it to a larger number of subjects. This consisted of comparing an additional 52,601 patients in Colorado (total 572,915) to an estimated additional 3.2 million (total 31.8 million) patients nationally.

RESULTS

During the years 2006, 2007, 2008 and 2009, the rate of the mean medical cost per case (MMCC) inflation in Colorado were 2.8%, -4.1%, 14.7%, and 3.3% respectively. In comparison, during the same years the rates of MMCC inflation nationally were 6.0%, 6.2%, 4.7%, and 5.5% respectively. By inspection, it can be seen that the start of the 2008 recession brought with it marked fluctuations in MMCC inflation rates in Colorado, which was consistent with positive moral hazard effects. Unexpectedly, these fluctuations were not observed in the mean national rates. This information can be found in Figure 1.

Over the same period of time, the mean indemnity [disability] cost per case (MICC) inflation rates in Colorado were -1.8%, 2.3%, 8.4% and -11.9%. In comparison, the MICC inflation rates nationally were 6.0%, 6.1%, 8.0%, and 1.1% respectively. This was consistent with positive moral hazard effects both in Colorado and nationally. This information can be found in Figure 2.

The total rate of medical inflation from 1992 to 2009 in Colorado in MMCC was 113.7%, as opposed to the nation, which was 221.5%. Similarly, the total rate of medical inflation from 1992 to 2009 in Colorado in MICC was 38.7%, as opposed to the nation, which was 142.6%. Had Colorado's medical inflation rates over this span of time equaled that of the nation, its costs for 2009 would have been about $760 million greater. Alternately, if Colorado's MICC and MMCC rates in 2009 equaled that of the nation, its costs for that year would have been $97 million greater.

CONCLUSIONS

These data suggested that Colorado's medical inflation rates responded differently than the nation with regard to medical treatment costs. One possible explanation for this is that due to Colorado unusual biopsychosocial law method, Colorado's cost containment expenditures are only one third that of the average state (National Council on Compensation Insurance, 2010). Thus, it is possible that this smaller cost containment infrastructure influenced the observed inflationary rates.

This study may have implications for treatment. The fact that medical care became more expensive during a recession in Colorado has no obvious medical explanation, but could suggest that recessions can lead to greater psychosocial complications in medical patients. These complications may be explainable, at least in part, by moral hazard effects in the social ecology. It is possible that differing moral hazard effects could incentivize patients to seek more care, providers to offer more care, and payers to deny more care. These competing economic interests could lead to increased psychosocial complications. By taking steps to better evaluate these complications (Bruns and Warren, 2011; Bruns and Disorbio, 2009), it may be possible to control for their contributions to delayed recovery.

The effects of recession on interdisciplinary treatment costs are complex. However, if healthcare reform is to be successful, it will be necessary to understand the economics of interdisciplinary care. The results of this study revealed that the onset of a recession and low inflation were associated with paradoxical increase in the inflationary rates of interdisciplinary care and disability in Colorado, and with disability but not medical costs nationally. Although this study could not identify the cause of these paradoxical increases, changes in moral hazard effects such as increases in secondary gain are useful hypotheses for further research.

FIGURE 1

Colorado vs. National Worker Compensation Medical Cost Increases

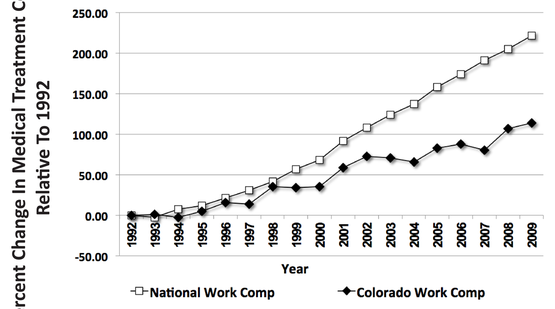

FIGURE 2

Colorado vs. National Worker Compensation Indemnity Cost Increases