

# Mass Lay-offs and Medical Expenditures

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April, 2011

## Job Insecurity and Depression

Is it possible to connect job insecurity to depression? The economic impact of a spike in unemployment rate extends beyond just the foregone wages and benefits to those who lose their jobs. Many more workers that do not actually lose jobs still become increasingly concerned that they will join the ranks of the unemployed. This can cause a great deal of stress leading to degradation of mental health, and studies have shown that poor mental health increases healthcare expenditures.

A recent study has shown that the expectation of job loss is as significant predictor of depression as job loss itself (Mandal et al., 2011). The study particularly focuses on older adults in the age range of 45 to 65 years, as involuntary job loss can seriously attenuate the retirement plans of older individuals if it is followed by a long spell of unemployment. One study finds that while displaced workers in their fifties

have a roughly 75% chance of becoming reemployed within two years after job loss, a 62-year-old job loser's chances are less than one third (Chan & Stevens, 2001). The issue of unemployment and its relationship to mental health status is of increasing importance as employment and associated health care benefits are becoming increasingly volatile. Harman et al (2004) find that out-of-pocket expenditures on all forms of healthcare for seniors with self-diagnosed depression significantly exceed expenditures for seniors with other common ailments such as hypertension and arthritis. This document discusses the connection between mass lay-offs and increases in medial expenditures induced by greater stress about potential job loss, with a special focus on the labor market situation in the state of Washington. This fact sheet is broadly divided into two sections. First, using data



from the Bureau of Labor Statistics and the Washington State Department of Personnel, I discuss the unemployment situation in the state of Washington as compared to the U.S. since the mid 1990s. Second, using a large nationally representative sample of Americans, I present information on medical expenditures among the employed and the temporarily unemployed based on their mental health status in the last decade. The information provided in this fact sheet is meant for general audience, and the technical background that links mental health to employment status may be found in Mandal et al. (2011) and Mandal and Roe (2008).

## The State of Labor Market in Washington

Job displacement is not new to the U.S. economy. It is estimated that from the late 1970s to 1995, 43 million jobs were permanently eliminated. Then, more than 5.3 million workers, 4% of the total work force, were displaced between 2001 and 2003, prior to a period of robust economic growth that ended in late 2007. However, in both production and service sectors of the economy, job losses have been almost unprecedented following

the recent collapse of equities and housing markets. According to the National Bureau of Economic Research, the latest recession started in December 2007 and ended in June 2009 (see <http://www.nber.org/cycles.html> for all business cycle dates since 1857). In Figure 1 I graph the net change in total gross jobs (gross job gains – gross job losses) in the private sector, as a percent of employment levels, from June 1992 to June

2010. The Bureau of Labor Statistics defines gross job gains as the sum of increases in employment from expansions in employment at existing units and the addition of new jobs at opening units. Gross job losses are the result of contractions in employment at existing units and the loss of jobs at closing units. The red series in the chart corresponds to the statistics from the entire nation, while the blue series corresponds to the statistics

Fig. 1: Private sector gross job gains and losses (as a percent of employment)



rate did not fall from 2009 to 2010. A majority of the labor force in the state is located in seven counties – Kitsap, Spokane, Pierce, Yakima, Thurston, Snohomish, and King. In Figure 3 I present the unemployment rates in these counties from 1990 to 2010. The numbers displayed in the graph are not seasonally adjusted, and the annual average unemployment rate in 2010 is calculated using observed values from the months of January till November and a projected value in the month of December. The projected unemployment rate in December 2010 in these counties ranged from 7.6% in Kitsap county to 9.8% in Snohomish county.

from the state of Washington alone. Although between June 2002 and December 2007 Washington had a healthy net change in total gross jobs in the private sector, since the latest recession it has been trailing the country in expanding employment opportunities. Gross total job losses outnumbered gross total job gains between December 2007 and June 2008. The decline reached its lowest point in December 2008. Since the recession began, a positive net gain of 728,000 jobs in the U.S. (41,342 jobs in the state of Washington) was reported in the second quarter of 2010.

Over 1.9 million jobs were lost in the last four months of 2008 after the failure of financial institutions and near closing of U.S. auto makers. Employment losses persist even as federal programs try to accelerate job creation, as is exhibited in Figure 2. The blue line shows the unemployment rate in Washington, while the red bars depict the number of lay-offs and mass lay-offs in the state. Although the number of lay-offs reached its peak in 2009, the rate of unemployment

Fig. 2: Mass lay-off events and Unemployment rate in Washington

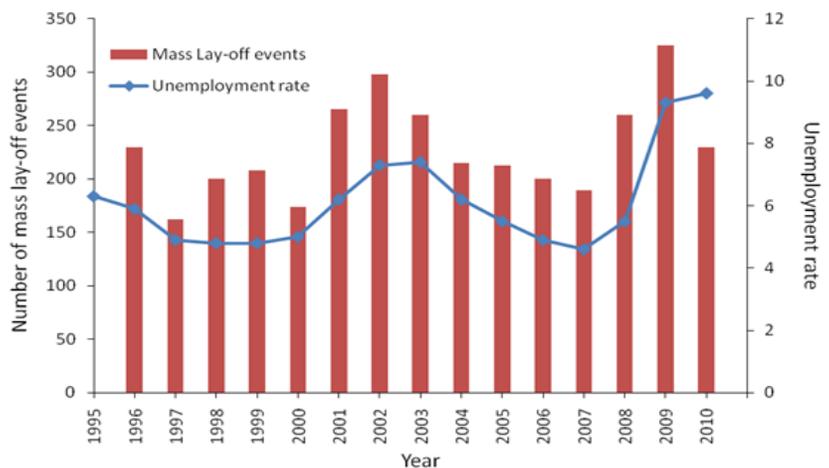
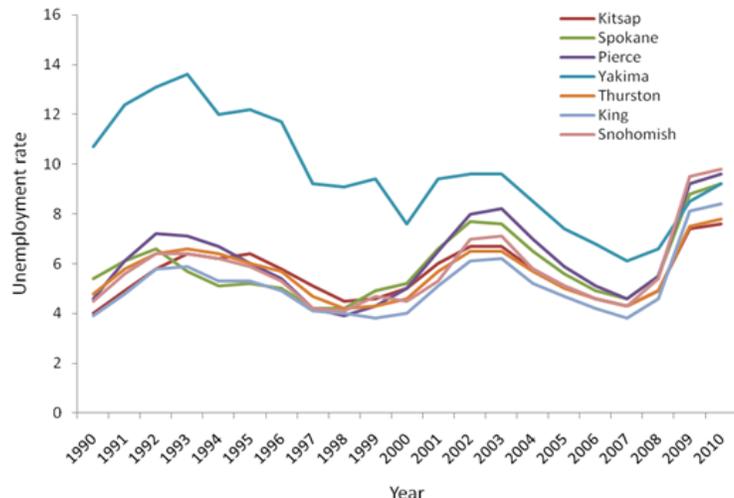


Fig. 3: Unemployment rate in selected counties in Washington (not seasonally adjusted)



Data from the Washington State Department of Personnel shows that approximately half of the state employees are located in the Department of Social and Health Services, Department of Correc-

tions, and Department of Trans- portations. A majority of the state employees are located in Spokane, Snohomish, King, Pierce and Thurston counties. Between fiscal years 2007 and 2010, the number

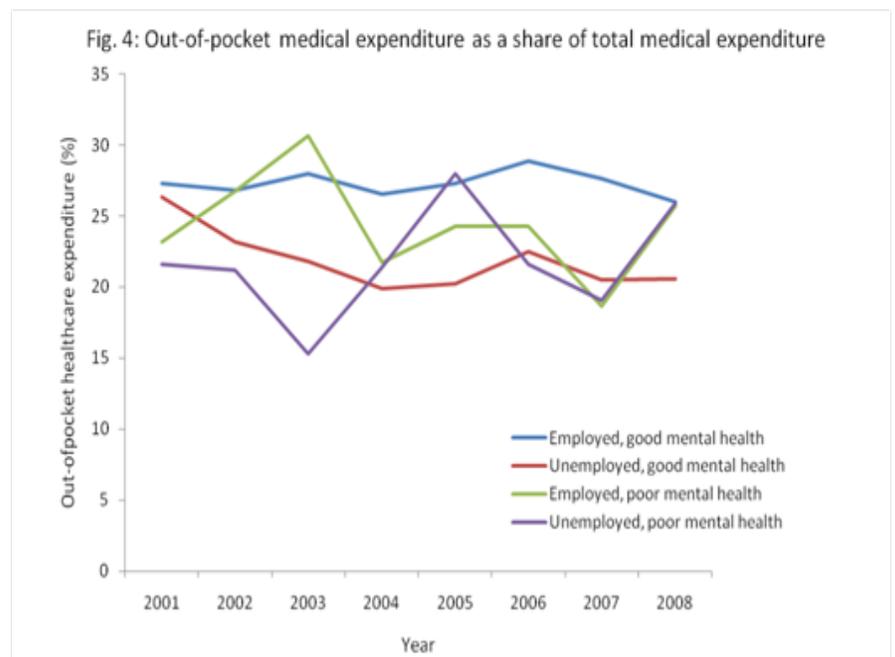
of lay-off activities (lay-off related appointment changes and lay-off separations) increased by 10%, from 144 events to 1603 events.

## Medical Expenditures in the Western Region

The Medical Expenditure Panel Survey collects data on use of health services, cost of the services, sources of payment of care, access to care, and health insurance coverage, along with demographic characteristics, health conditions, and employment status from a nationally representative set of American households. The public-use data files are available from the Agency of Healthcare Research and Quality. In this fact sheet I present household data from 2001 onwards from the western region to display the relationship between medical expenditure, employment status and perceived mental health status. Questions related to perceived mental health were not asked before the 2001 survey. Perceived mental health status is coded using a uniform and standardized system known as the Clinical Classifications Software based on the International Classification of Diseases. Respondents to the Medical Expenditure Panel Survey could report their mental health as being 'excellent', 'very good', 'good', 'fair' or 'poor'. I combine the first 3 categories to denote 'good' mental health status and the last 2 categories for 'poor' status. Detailed information regarding the mental health questions and categorization scheme may be found at <http://www.hcup-us.ahrq.gov/toolssoftware/ccs/ccs.jsp>. Households' states of residence are not disclosed in the

public-use data files, but the census regions of residence are. The western region includes the states of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, New Mexico, Nevada, Oregon, Utah, Washington and Wyoming. Figure 4 shows the total out-of-pocket healthcare expenditures as a percentage of the total healthcare expenditures on average for the U.S. among employed and unemployed individuals with differential perceived mental health status. Employed individuals who were on leave when the interviews were conducted are excluded.

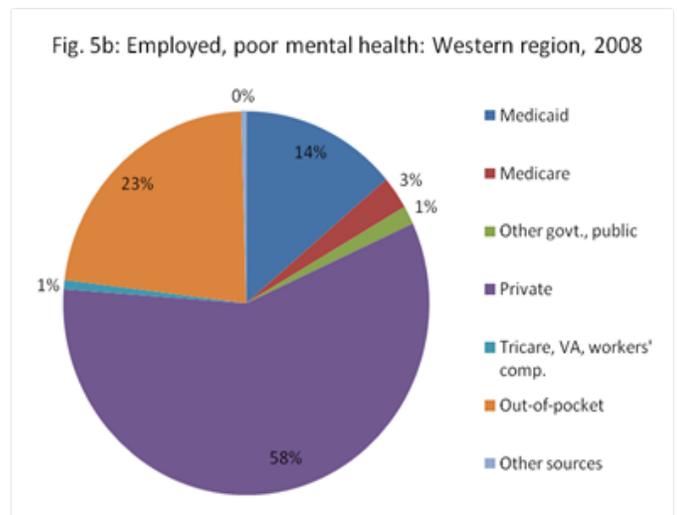
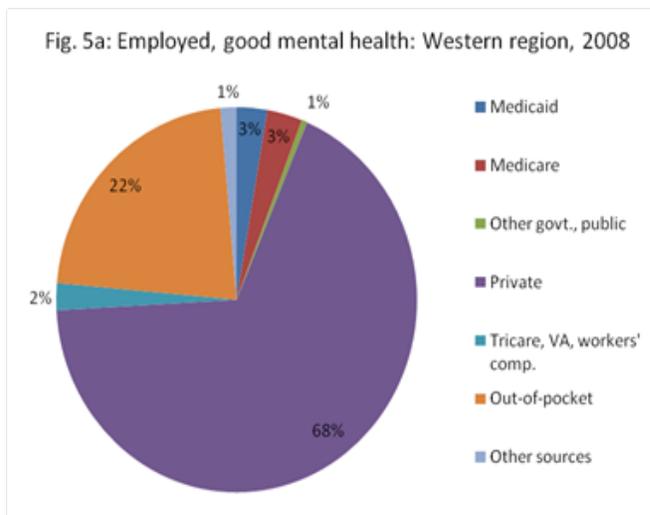
From the aggregate data it is not possible to conclude the reason for unemployment, that is, it is not known whether the individual was laid-off or if he quit the job voluntarily. It is also not possible to separate out the long-term unemployed from individuals not in the labor force (such as homemakers and retirees). Therefore, I only include those unemployed individuals who held no job during the interview, but had a job in other rounds of the panel surveys. In general, employed individuals have greater purchasing power than unemployed individuals. Employed individuals could also receive medical benefits through their employers.



Thus, a higher out-of-pocket expenditure on healthcare could be separated into two effects – an income effect and a substitution effect. For the prior, as income level increases an individual is likely to spend more on all normal goods, including medical care. A substitution effect occurs when one is not expected to pay the full price of a good, then the individual could decide to consume more of that good compared to other goods for which he has to pay the full price. For example, an insured individual only pays a deductible, a co-pay and a coinsurance instead of the full fee for a medical service. Thus, it is not surprising that employed individuals tend to consume more medical care than unemployed individuals. However, two trends are worth discussing. First, between 2006 and 2007 the share of out-of-pocket expenditure on medical care dropped among the employed and unemployed individuals with poor mental health, with a sharper fall among

the employed with poor mental health. Then, between 2007 and 2008, the share rose sharply for both groups. Given that economic conditions only worsened between 2007 and 2008, it is possible that, in line with recent findings (Mandal et al., 2011), the employed individuals consumed more medical care because their mental health deteriorated significantly. A major limitation of using aggregate level data is that it is unknown which medical services were actually consumed by the two groups. However, restricting the data to employed individuals and short-term unemployed individuals less than or equal to 65 years lends strength to the assumption that the physical characteristics of the two groups are similar. The second interesting trend is that the consumption of medical care fell among the employed individuals with good mental health between 2006 and 2008, possibly because as the recession carried on longer than usual, substitution effects

ceased to play an important role in purchasing behavior. In Figure 5 I present the various sources of healthcare payments (such as Medicare, Medicaid, Out-of-pocket, and Private insurance) as percentages of total healthcare expenditures among the employed with good and poor mental health in the western region in 2008. Both pie-charts show that the largest share of healthcare expenditure is covered by private insurance, which in most cases consists of the employer-sponsored health insurance. The second source of payment is out-of-pocket. However, the share of Medicaid is significantly larger among employed individuals with poor mental health compared to those with good mental health. Medicaid is a government program for families with low incomes and resources. It is likely that individuals who are still employed but have reduced incomes and fringe benefits have switched from private insurance to Medicaid.



## Summary

Anxiety about jobs, housing, and the erosion of retirement savings is likely to rise in a sustained economic downturn. The purpose of this document is to provide an idea of how this affects healthcare expenditures. It is not possible to estimate the exact dollar values of medical services from addressing mental health issues using aggregate data. However, large nation-

ally representative aggregate data do provide a broad picture of the expenditure trends. All indications are that the demand for mental health services increases in financial crisis. Funding these services, as well as making sure that healthcare facilities are not over-stretched to meet the spike in demand are areas of concern. Due to financial constraints,

mental health problems may go undiagnosed among unemployed individuals, festering into bigger health issues that are costlier to treat. Those who remain employed with limited financial resources are likely to enroll into the already strained Medicaid system.

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