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Impact of Employment Transitions on Health Insurance Coverage of Rural Residents

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EXECUTIVE SUMMARY

Introduction

Numerous studies have found that rural residents are more likely to be uninsured than urban residents. This coverage difference is generally due to more limited access for rural workers to employer-sponsored health insurance. Lower wages, and the tendency for rural residents to work for small employers, account for this reduced access. While we have substantial information on static insurance coverage rates for rural residents, our knowledge about how coverage changes with employment transitions is limited. Prior research indicates that loss of a job puts workers at greater risk of becoming uninsured, and there is some evidence that this risk is even greater for rural workers. Other studies suggest that access to health insurance plays an important role in determining whether a worker decides to change. Whether this relationship is any different for urban versus rural workers has not been well-studied.

In the past 20 years, much of the federal-level policy attention related to health insurance coverage has emphasized ensuring continuity of coverage for individuals that experience an employment transition. For example, the Consolidated Omnibus Budget Reconciliation Act (COBRA), passed in 1985, ensured that those with employer-sponsored coverage could retain that coverage even if that employment ceased. Similarly, the 1996 Health Insurance Portability and Accountability Act (HIPAA) guaranteed individual coverage for those who leave a group plan. However, both of these key policy interventions are inapplicable to the smaller employers that are the backbone of rural economies. Thus, rural workers may be more likely than urban workers to experience disruptions in health insurance coverage following an employment transition.

The Patient Protection and Affordable Care Act (ACA) provides a new background against which to consider the issues of job change, job loss, health insurance portability and coverage of rural residents. Understanding how changes in employment status impact insurance coverage for rural workers can help to identify potential challenges and opportunities for implementing ACA in rural areas.

Methods

Using data from the 2004, 2005 and 2006 Medical Expenditure Panel Survey (MEPS), we coded three types of employment transitions between MEPS interviews (*no employment transition, transition to new job, and transition to no job)* and compared the type of employment transitions experienced by rural and urban workers, and the association between type of employment transition and post-transition insurance status. We defined "rural workers" as those living outside of a Metropolitan Statistical Area (MSA). All statistical tests were calculated in SAS® with survey procedures to account for the MEPS' sample design and yield valid standard errors for the weighted data.

Findings

Instability in employment greatly increases the risk of becoming uninsured for U.S. workers, regardless of residence. Workers with an employment transition were four times as likely to be uninsured relative to those who remained at the same job. The financial crisis that began and recession that deepened in 2008 has dramatically increased the national unemployment rate and contributed to higher rates of uninsurance in both rural and urban areas. On the employment side, the recession has impacted rural areas profoundly, with the rural unemployment rate essentially doubling between 2007 and 2009 (from 5.1% to 9.8%). The most recent Current Population Survey (CPS) estimates show that the number of rural uninsured increased by 486,000 (or 6.7%) over the same period, and the rural uninsured rate increased from 15 to 16%. While public programs appear to have moderated the increase in uninsured rates that could have resulted, these estimates suggest that significant numbers of rural workers have lost employer-based coverage, and even more may do so until the economy recovers.

There are some significant differences between rural and urban workers who change jobs; the uninsured rate is higher among rural workers who change jobs. However, this difference is largely attributable to differences in the employment and demographic characteristics of rural workers. Once we controlled for known risk factors for being uninsured, such as working for a small employer, living in the Southern census region, living in poverty, lacking a high school diploma, and Hispanic ethnicity, the association between changing jobs and being uninsured lost

significance. The policy implication of this finding is that addressing affordability and access to insurance among employees of small businesses (e.g. the tax credits authorized under ACA, along with small group market reforms) could have a disproportionate, positive impact on rural workers.

Privately insured rural workers are less likely than urban workers to have an employment transition. The latter finding was mitigated when we controlled for age and marital status. Taken together, these findings could mean that rural workers are more likely to experience "job lock" and remain in jobs that they may not prefer for fear of losing health insurance. This rural effect appears to be explained by the fact that rural workers tend to be older and are more likely to be married, both of which are positively associated with staying in the same job in our models. Older workers have greater need for health insurance, and married workers may be more likely to have dependents (including a spouse) also enrolled in their coverage.

Discussion

While ACA includes a number of provisions to increase employer-based offerings such as small-business tax credits, it also provides many opportunities for coverage to individuals without access to insurance through an employer. Expanding public coverage, increasing the accessibility and transparency of individual insurance plans through health insurance exchanges (HIEs), and subsidizing individual coverage are strategies that may be particularly important for rural residents. In addition to expanding coverage for rural workers in their current jobs, these individual-focused components of ACA may have the effect of improving employment mobility for rural workers, and decrease the risk of becoming uninsured following an employment transition.

While ACA holds opportunities for expanding rural insurance coverage, the details of implementation and their effect of rural and urban participation remain uncertain. For example, while HIEs may increase insurance offerings to small employers and individuals, one of the factors by which HIE plans are allowed to vary their premiums is geography. Thus, the extent to which insurers identify rural residence as contributing to higher costs will affect the overall affordability of plans offered through HIEs to rural residents and firms. Additionally, we have limited information about whether there are rural-urban differences in how individuals and

businesses will respond to subsidies and other incentives and thus cannot conclude whether "take-up" rates will be the same or different in rural versus urban areas. Finally, the extent to which ACA reforms can create stable coverage for rural residents will depend, in part, upon how seamlessly transitions can be made between different coverage sources such as Exchange plans and Medicaid.

INTRODUCTION

Numerous studies have found that rural residents are more likely to be uninsured than urban residents.[1-3] This coverage difference is generally due to more limited access for rural workers to employer-sponsored health insurance. Lower wages, and the tendency for rural residents to work for small employers, account for this reduced access.[4,5] While we have substantial information on static insurance coverage rates for rural residents, our knowledge about how coverage changes with employment transitions is limited. For example, among those rural residents with private health insurance coverage, we do not know what impact a job change may have on coverage.

Previous studies suggest that rural workers are less likely than urban workers to be displaced from their jobs; however, once displaced, they have longer unemployed spells and are more likely to leave the workforce altogether.[6] Similar research indicates that being a minority, having lower education, and living not adjacent to an urban area each increase the length of jobless spells among unemployed rural workers.[7] Rural workers are also more likely to face involuntary reductions in hours, and thus may become ineligible for health insurance coverage that they previously held.[8] Thus, rural workers may be at greater risk of becoming uninsured and staying uninsured longer.

In the past 20 years, much of the federal-level policy attention related to health insurance coverage has emphasized ensuring continuity of coverage for individuals that experience an employment transition. For example, COBRA legislation was passed in 1985 to ensure that those with employer-sponsored coverage could retain that coverage even if that employment ceased. Similarly, the 1996 HIPAA legislation guaranteed individual coverage for those who leave a group plan. However, both of these key policy interventions are inapplicable to the smaller employers that are the backbone of rural economies. Thus, rural workers may be more likely than urban workers to experience disruptions in health insurance coverage following an employment transition. This is especially true if rural workers with access to COBRA or HIPAA coverage do not have the income to meet the premium requirements that accompany these plans. On the other hand, recent Children's Health Insurance Program (CHIP) expansions that allow states to cover parents and/or childless adults may help provide transitional coverage to rural residents.

In this paper, we explore the impact that changes in employment status have on insurance status for rural versus urban workers, and the underlying factors that explain differences in insurance. The Patient Protection and Affordable Care Act (ACA) provides a new background against which to consider the issues of job change, job loss, health insurance portability and coverage of rural residents. Our findings provide important information to policymakers about the health insurance coverage challenges that rural workers may face, and help to identify potential challenges and opportunities for implementing ACA in rural areas.

BACKGROUND

Employer-based health insurance plans remain the primary source of coverage for U.S. residents, with 62% of the non-elderly covered by their own or a family member's employer.[9] While this holds many cost advantages, including risk-pooling and employer contributions, it also leaves workers and their families vulnerable to disruptions in coverage during employment changes. Workers moving from one job to another may lose coverage briefly if they have an employment gap or if they are not immediately eligible for coverage with their new employer. Alternatively, those that voluntarily or involuntarily leave a job may experience longer spells of uninsurance if they cannot afford the full premium of COBRA or nongroup plans.

Prior research indicates that people leaving or losing jobs results in a decrease in insurance coverage for the unemployed and that while continuation mandates help increase insurance coverage among the unemployed, they also increase joblessness and the length of unemployment.[6] The number of people able to take advantage of continuation mandates may be limited. For example, using the 1996 MEPS, Kapur and Marquis[10] found that only 20 to 25% of unemployed COBRA-eligible workers purchase COBRA coverage. And, compared to other job leavers, COBRA-eligible workers were more likely to regain insurance at a new job within a month, suggesting that they had an advantage over job leavers who were not eligible for COBRA. Even among COBRA participants, experience with the program was mixed—67% of COBRA participants held the policy for less than six months, and 46% of those who dropped COBRA coverage became uninsured. Because Kapur and Marquis did not examine the impact of residence on this experience, it is unclear how rural residents compare to their urban counterparts in take-up and duration of COBRA coverage.

There is limited evidence that rural workers who suffer a job loss are at heightened risk of losing health insurance coverage and of remaining unemployed. In a more than 20-year old study, Swaim[11] used the 1986 and 1988 Current Population Surveys (CPS) to study rural workers who had lost a full-time job and found that the impact of job displacement on wages and health insurance benefits was greater for rural (non-metropolitan) workers. Displaced rural workers were more likely to remain jobless for longer than 6 months (44 versus 40%). For those who did become reemployed, 36% of rural workers had more than a 25% reduction in their earnings, versus 30% of urban workers. And among workers who had group health coverage before losing their jobs, rural workers were more likely to lose their health insurance and remain uninsured (34 versus 26%).[11]

More recent research suggests that while rates of job loss seemed to improve for rural residents during the 1990s, those that lost jobs still faced greater disadvantages in regaining employment than their urban counterparts. For example, Hamrick[6] found that while rural (non-metropolitan) workers in the early to mid-1980s experienced job loss at disproportionately higher rates, by 1995-1997, they were slightly less likely then urban (metropolitan) workers to lose a job. Once rural workers lost a job, however, they were less likely to find a new job, and more likely to drop out of the labor force. While this study did not explicitly measure insurance status following job disruption, the author observed that rural workers were less likely to have employer coverage when employed, and more likely to work for small business and thus less likely to benefit from continuation mandates such as COBRA and HIPAA.[6]

Consistent with prior findings, Mills[7] noted that workers with lower educational attainment had more difficulty exiting unemployment. He found that while low rates of exit from unemployment could not be attributed directly to the geographic dispersion of employment opportunities in nonmetropolitan areas, lack of access to a full array of employment opportunities available in metropolitan areas impedes exit from unemployment, making employment transitions in nonadjacent nonmetropolitan areas more expensive in terms of time spent searching for new employment.[7] Most recently, McBride and Kemper[12] reported that the recent recession led to increased unemployment in rural areas in the east and on the Pacific Coast, with rural uninsurance highest in the south and Pacific West. They found that unemployment increased from 5.1% to 9.8% in rural areas, an increase of 4.7 percentage points. By comparison, unemployment rates in urban areas increased from 4.5% to 8.7%, a 4.2

percentage point rise. In addition to problems of involuntary job loss and unemployment, some workers may feel compelled to stay in jobs that they would prefer to leave because a change could result in a loss of health insurance, a phenomenon known as "job lock". Job lock implies a reverse causal pathway – one in which health insurance status predicts the likelihood of experiencing an employment transition. Research into job lock has found some evidence that lack of insurance portability, exclusion of preexisting conditions, waiting periods for coverage, and similar factors can affect job mobility, particularly among unmarried workers.[13] Gruber and Madrian,[14] in their review of the literature on health insurance, labor supply, and job lock, identified health insurance as a key factor in decisions to work, retire, leave welfare, or switch jobs. They found that using spousal health insurance to identify the effect of health insurance on job mobility led to significant and positive estimates of job lock.

While not explicitly a study on job lock, Kapur and Marquis[10] found that most workers observed leaving their job lacked health insurance in the first place, and that low-income job leavers were more likely to be uninsured than high-income workers.[10] While one could interpret this as evidence of job lock, one could equally say that jobs that don't offer insurance benefits may be undesirable to workers for other reasons as well (e.g. lower wages, limited flexibility, etc). This reflects the conceptual and methodological challenges of identifying job lock noted by Gilleskie and Lutz, that health insurance is likely to be correlated with "unobserved positive job characteristics" that would reduce mobility.[15] In other words, workers may stay in jobs with health insurance because they are "good jobs" and health insurance is just one part of that.

The literature we reviewed makes it clear that loss of a job puts workers at greater risk of becoming uninsured, particularly for rural workers. The evidence regarding the relationship between job <u>changes</u> and insurance status suggests that access to health insurance plays an important role in determining whether a worker decides to change jobs. Whether this relationship is any different for urban versus rural workers has not been well-studied. The purpose of this study is to close these knowledge gaps and identify the extent to which rural-urban differences in health insurance coverage following an employment transition have implications for health and employment policy and health reform implementation.

METHODS

      This study has three basic research objectives: 1) to identify whether and to what extent there are rural-urban differences in insurance coverage after different types of employment transitions, 2) where differences exist, to understand what characteristics of rural workers are related to their likelihood of becoming uninsured after a transition, and 3) to identify whether there are rural-urban differences in the association between access to health insurance coverage and job changes (job lock) . To address these objectives, we examined a nationally representative sample of all employed U.S. adults between the ages of 18 and 64 for whom at least one follow-up interview was available. Categorizing workers according to the type of employment transition experienced during the study period – including those who experienced no transition, those who transitioned to a new job, and those who left their job—we compare the insurance status at the follow-up interview across each type of transition for urban versus rural workers.

Data

      This study used the 2004, 2005 and 2006 Medical Expenditure Panel Survey (MEPS), an overlapping panel survey conducted by the Agency for Healthcare Research and Quality (AHRQ), to collect detailed information on health insurance, employment status, employment characteristics, as well as other detailed socioeconomic information from a representative sample of the United States' population. We pooled the 2004 through 2006 MEPS Household Component (HC) data to create a file of approximately 40,185 workers between the ages of 18 and 64. There are three rounds of interviews in a given MEPS year. To be included in the analytic file, an individual would have to report working at the round 1 or round 2 (or both) interviews to allow for at least one follow-up observation of employment status. Retirees (ie. those who gave "retired" as a reason for leaving their job) were also excluded.

Dependent and Independent Variables

      Our primary variables of interest are insurance status, type of employment transition and rural or urban location. The dependent variable for most analyses is insurance status measured at the time of the follow-up interview. The two key independent variables are rural residence and type of employment transition. We used a modified version of the Rural-Urban Continuum Codes as a measure of rural location for some preliminary analysis, differentiating between

urban, rural-adjacent and rural non-adjacent counties.[16] However, small sample sizes limited the statistical power, so we used the dichotomous measure of rural location based on residence outside (or within) a Metropolitan Statistical Area (MSA) in our final models.

We coded three main types of employment transitions as follows:

1) *No employment transition*   Adults age 18 – 64 who reported working in the same job at all interviews. For those with no transition, the first interview was treated as the baseline (referred to as Time 1), and the second interview as the follow-up interview (Time 2).

2) *Transition to a new job*   Reported they were working at the baseline interview but had changed to a different main job at the follow-up interview.

3) *Transition to no job*   Reported they were working at the baseline interview but were not working at the follow-up interview.

For some analyses, the "transition to no job" category was further divided into voluntary and involuntary transitions based on the reason given by respondents. "Involuntary" transitions were coded when the respondent gave one of the following reasons for leaving their previous job: job ended, business dissolved or sold, illness or injury, laid off, or unpaid leave. Also note that because the MEPS job change variable only identifies workers who change from one employer to another, workers who change positions or change the number of hours worked for the same employer are not counted as having an employment transition in this coding scheme.

We also included as control variables a number of demographic and job characteristics that have been shown to be associated with insurance status: age, education level, gender, health status, race and ethnicity, census region, household income as a percentage of the Federal Poverty Level, family size, marital status, employer size, occupation (administrative, professional and managerial) and type of employer (private versus government).

Statistical Analysis

To address our research questions, we use a multi-stage analytic approach employing bivariate and multivariate methods.   We weighted the data using the person weights provided by

AHRQ to correct for the complex sampling design, with strata and primary sampling unit data designed to permit pooling of survey years. All statistical tests were calculated in SAS[®] with survey procedures that use the Taylor series linearization approach to account for the MEPS' sample design and yield valid standard errors for the weighted data.

Our bivariate analyses examine uninsured rates and prevalence of different types of insurance after an employment transition by type of transition and residence. The bivariate analysis of job lock examines rates of employment transitions by type of insurance at baseline and rural/urban residence. All frequency differences were evaluated with Rao-Scott chi square tests of significance to adjust for data clustering; means were compared using t-tests. Unless stated otherwise, any reported differences are statistically significant at the .05 level or less. We use multivariate logistic regression analysis to test whether rural/urban differences observed in the bivariate analyses can be explained by pre-existing differences in the demographic or job characteristics of urban and rural workers. To test for the presence of effect modification, we include interaction dummy variables between rural location and the type of employment transition. These variables are used to test, for example, the hypothesis that there is a stronger impact of changing jobs on the likelihood of becoming uninsured for rural workers relative to urban.

FINDINGS

Demographics

Rural workers tend to be older and less-educated than their urban counterparts (results not shown); they are more likely to be in fair or poor health, are largely white and non-Hispanic (83% rural versus 67% urban), and are more concentrated in the Southern and Midwestern regions of the United States (73% of rural workers live in the South or Midwest, versus 56% of urban workers). Rural workers are also more likely to live in low-income households, and are more likely to be married.

Job Characteristics & Insurance Status

Table 1 describes the job characteristics and insurance status of our sample by urban and rural residence. Rural workers are more likely to work for employers with less than 20 employees (45% rural versus 37% urban), and are less likely to work in administrative,

professional or managerial occupations (41% rural versus 51% urban). They are more likely, however, to be employed through the federal, state or local government. Our results confirm prior work showing rural workers are more likely to be uninsured (22% versus 20%), and less likely to receive insurance coverage through their current employer (48% versus 52%).

Distribution of Employment Transitions

Overall, 77% of adult workers in the MEPS sample had no employment transition during the observation period (Table 2). Fourteen percent of workers transitioned to a new job, and 9% voluntarily or involuntarily left their job and were not employed at the next MEPS interview. A more detailed breakdown of the 14% of workers who changed jobs showed that 8% of all workers changed from one full-time job to another, 1% moved from a full-time to a part-time job, 2% went from a part-time to a full-time job, and 2% transitioned between part-time jobs. (Note that workers who changed the number of hours worked at the same employer are not measured in the MEPS and would be included in the "no transition" group in these figures.) The 9% of workers that had no job at the follow-up interview included 6% who lost a job involuntarily and 3% who voluntarily left. We found no statistically significant differences in the distribution of employment transitions between rural and urban workers in our sample.

Association between Employment Transitions and Insurance Status

As noted in the literature, we found that all workers who experience instability in their employment are at significantly higher risk of being uninsured, and correspondingly less likely to have access to private coverage after a job transition. As shown in Table 3, among those with no job transition, only 16% were uninsured at Time 2, versus 38% of workers who transitioned to a new job and 46% of those who had no job after the transition. Workers with an involuntary job loss were at particularly high risk of being uninsured, at 50% (not shown).

Employment transitions are also associated with a lower likelihood of having employer coverage or any private coverage generally. Sixty five percent of workers with stable employment had coverage through their current employer at the second MEPS interview, versus only 28% of those who changed jobs. Eighty one percent of workers without a transition had some type of private coverage (including coverage through their current employer), whereas 56% of job changers had private coverage and only 41% of workers who lost or left their job had

private coverage after the transition. Public insurance coverage had the reverse association with employment transitions. Workers who lost or left their job had the highest proportion of public coverage (15%), followed by those who changed jobs (7%) and those with no transition (5%).

We found no significant differences in the percentage of rural and urban workers who were uninsured among those with no employment transition, or among those who lost or left their job. However, among workers who changed jobs, rural workers were more likely to be uninsured after the transition than urban, at 45 and 37% respectively. This difference was driven primarily by the group of workers who transitioned into a full-time job; 47% of rural workers were uninsured after this type of transition, versus only 37% of urban (not shown).

We also found a few other significant rural/urban differences in specific types of insurance coverage by type of transition. Among workers with no transition, rural workers were less likely than urban to have coverage from their employer (62 versus 65%). There were no geographic differences in type of insurance coverage for workers who left or lost their job. But for workers who changed jobs, rural workers were less likely to have employer coverage than urban (23 versus 29%), and less likely to have any private coverage after the transition (48 versus 57%).

Because rural workers are more likely to be uninsured to begin with, we then limited the sample to workers who had health insurance through their current employer at the first MEPS interview. Even after controlling for prior insurance status, we find that rural workers who move between jobs are more likely than urban workers to be uninsured after the transition (37 versus 30%). This is because these rural job-changers are less likely to have coverage through their new employer than urban (41 versus 51%), and are less likely to have any private coverage (59 versus 69%).

In summary, our bivariate results confirm that both job changes and job loss are associated with significant loss of private coverage and some take-up of public coverage. Because loss of private coverage is not offset but increases in public coverage among workers with employment transitions, uninsured rates are also higher. Our results also suggest that rural workers who change jobs are at greater risk of losing private coverage and of becoming uninsured after their job transition.

<u>Multivariate Results</u>

To further test the association between employment transitions, rural residence and insurance status, we ran a set of nested logistic regression models using uninsured status after the transition as the independent variable. The first model controls only for rural residence and type of employment transition (Table 4). The results indicate that workers with an employment transition were more than three times as likely to be uninsured at the subsequent MEPS interview relative to those who remained at the same job (Odds Ratio 3.2 for transition to a new job, and OR 4.5 for transition to no job). Further, the significant interaction between rural residence and transition to a new job indicates that rural workers who transition to a new job are more likely to be uninsured after the transition than urban workers (OR 1.3).

The second model adds controls for insurance status prior to the employment transition (or at the first interview if there was no transition), job characteristics, and demographics. Not surprisingly, having insurance at the first interview was a significant protective factor against becoming uninsured at the second interview, regardless of the type of insurance (OR < .02 for all three types of insurance). Several job characteristics were also significant predictors of insurance status. Individuals working for small employers at the outset were more likely to be uninsured at the follow-up interview (OR 1.6). And those who worked for government (federal, state or local) employers were less likely to be uninsured (OR 0.5) relative to those working in the private sector. Other risk factors for being uninsured at Time 2 include living in the southern Census region (OR 1.3), and Hispanic ethnicity (OR 1.5). Protective factors against being uninsured include having income over 200% of the Federal Poverty Level (OR 0.6), having a college degree (OR 0.6), being married (OR 0.7) and being female (OR 0.8).

The interaction between transitioning to a new job and rural location loses significance in the second model, suggesting that differences in prior uninsured status, and job and demographic characteristics explain much of the added risk of being uninsured for rural workers who transition to a new job observed in the first model and in our bivariate findings. Unlike Swaim[11], we did not find evidence that rural workers who lose jobs are more likely than urban to be uninsured in our sample. In fact, the interaction between transitions to a new job and rural residence, though only marginally significant, suggests that workers who leave jobs in rural areas are actually <u>less</u> likely than urban to be uninsured (OR 0.7).

The second model also lends further evidence that any type of employment transition increases the risk of being uninsured. Even after taking into consideration prior insurance status, employer size and occupation, and a wide array of demographic characteristics, we found that workers who change jobs are more than three times as likely to be uninsured (OR 3.7) and those who leave their job are nearly seven times as likely to be uninsured (OR 6.9) relative to workers with stable employment.

Employment Mobility

Our third research question examines the proposition that workers are less likely to change jobs if they have employer sponsored insurance (ie. whether there is "job lock"), and whether rural workers are more likely to experience job lock than their urban counterparts. Our bivariate results are consistent with this proposition (results not shown); overall, about 23% of workers in our sample experienced a job transition. But those who had employer coverage from their current job at baseline were less than half as likely to change or leave their job (13.5%) relative to those with other private coverage (28%), public coverage (37%), and workers who were uninsured (36%). Moreover, rural workers with employer coverage had lower rates of employment transitions (12%) than their urban counterparts (14%).

Our multivariate models re-examine the relationship between job transitions and prior insurance coverage by controlling for job and demographic characteristics. The logistic regression models in Table 5 predict the likelihood that a worker remains in the same job (versus changing, leaving or losing their job). The results in Model I show that having employer coverage is very strongly associated with staying employed at the same job between interviews (OR 3.4). It also shows there is a significant interaction between rural residence and employer coverage (OR 1.3 for employer insurance x rural), indicating that the job lock effect of employer coverage is stronger for rural workers than urban. This interaction term remained significant in a second model that added controls for job characteristics (not shown), but loses significance in the final model after the demographic controls are added. Further sensitivity analyses (not shown) indicate that age and marital status, in particular, are responsible for much of the apparent rural effect. Finally, even with all of the job characteristic and demographics that we account for in the second model, workers with employer coverage in our sample are twice as likely as those who are uninsured to remain in the same job (OR 2.1). While our model is limited by a lack of

measures of local labor market conditions that affect employment opportunities, this finding provides further support for the existence of job lock among U.S. workers.

LIMITATIONS

While the MEPS sample design is longitudinal, making it possible to observe the changes in employment and insurance status necessary to answer our research questions, the follow-up period for individual respondents is relatively short – only 12 to 16 months for a typical MEPS respondent. We are only able to look at insurance status immediately following an employment transition. A longer follow-up period would allow us to examine the longer-term affects of job changes or job loss on insurance coverage of workers. The MEPS design also precludes state-level analyses; we are unable therefore to control for differences in states' insurance regulations and reform efforts that affect the availability and affordability of health insurance coverage.

Our findings related to employment mobility (i.e., job lock) are also limited by several factors. First, as noted above, we lack information about the characteristics of the labor markets within which rural and urban workers are employed. We also lack other important variables that could help to disentangle problems of endogeneity between health insurance coverage and other unobserved positive job characteristics that can affect an individual's decision to change jobs, such as higher wages, retirement savings plans, or flexible hours. Thus, while our findings can be interpreted as supporting the hypothesis that rural residents have greater issues of job lock, they do not offer conclusive evidence of this phenomenon.

Finally, our study has important temporal limitations as will be discussed in greater detail below. The 2004-06 MEPS were the most recent data available at the time of our study and are reasonably contemporaneous for most research topics. However, since then the U.S. has undergone a deep and persistent recession that is likely to have had strong impact on the employment and health insurance factors and relationships analyzed in this study.

DISCUSSION AND POLICY IMPLICATIONS

One of our key findings is that instability in employment greatly increases the risk of becoming uninsured for U.S. workers, regardless of residence. Workers with an employment transition were four times as likely to be uninsured relative to those who remained at the same job. The financial crisis that began and recession that deepened in 2008 has dramatically

increased the national unemployment rate and contributed to higher rates of uninsurance in both rural and urban areas. On the employment side, the recession has impacted rural areas more profoundly than urban, with the rural unemployment rate essentially doubling between 2007 and 2009 (from 5.1% to 9.8).[12] The most recent CPS estimates show that the number of rural uninsured increased by 486,000 (or 6.7%) over the same period, and the rural uninsured rate increased from 15 to 16%.[17] While public programs appear to have moderated the increase in uninsured rates that could have resulted, these estimates suggest that significant numbers of rural workers have lost employer-based coverage, and even more may do so until the economy recovers.

The finding that rural workers who lost jobs were less likely to be uninsured runs counter to the findings of Swaim[11] who noted that rural (non-metropolitan) workers who lost their jobs were more likely to lose their health insurance than urban. The data from our sample was collected in the mid-2000's, nearly twenty years after the CPS data used by Swaim. It is not clear how the labor and insurance market dynamics of rural areas may have changed in this period to bring about this result, but one explanation could be the expansion of public health insurance programs (e.g. Medicaid and CHIP). While these expansions were primarily targeted at children, evidence suggests that rural adults saw a nearly 50% increase in public coverage between 1997 and 2005.[18] The Medicaid expansion authorized under the ACA has the potential to provide coverage to many who experience job loss, particularly in rural areas where families tend to have lower average incomes than in urban.[1]

We also found that there are some significant differences between rural and urban workers who change jobs; the uninsured rate is higher among rural workers who change jobs. However, this difference is largely attributable to differences in the employment and demographic characteristics of rural workers. Once we controlled for known risk factors for being uninsured, such as working for a small employer, living in the Southern census region, living in poverty, lacking a high school diploma, and Hispanic ethnicity, the association between changing jobs and being uninsured lost significance. The policy implication of this finding is that addressing affordability and access to insurance among employees of small businesses (e.g. the tax credits authorized under ACA, along with small group market reforms) could have a disproportionate, positive impact on rural workers.

Although rural workers that change jobs are more likely to end up uninsured than their urban counterparts, we also find that privately insured rural workers are less likely than urban workers to have an employment transition. The latter finding was mitigated when we controlled for age and marital status. Taken together, these findings could mean that rural workers are more likely to experience "job lock" and remain in jobs that they may not prefer for fear of losing health insurance. This rural effect appears to be explained by the fact that rural workers tend to be older and are more likely to be married, both of which are positively associated with staying in the same job in our models. Older workers have greater need for health insurance, and married workers may be more likely to have dependents (including a spouse) also enrolled in their coverage.

The combined findings of this study—that workers who become unemployed are at high risk of being uninsured; that rural workers may be more reluctant to leave a job with benefits for other employment (which our regressions suggest may be due to their older age); and, that rural residents who change jobs are more likely to be uninsured—highlight the challenges of an insurance system built around employer-based coverage. In fact, the relative lack of employer-based coverage accounts for higher uninsured rates among rural versus urban workers.[1] While ACA includes a number of provisions to increase employer-based offerings such as small-business tax credits, it also provides many opportunities for coverage to individuals without access to insurance through an employer. Expanding public coverage, increasing the accessibility and transparency of individual insurance plans through health insurance exchanges (HIEs), and subsidizing individual coverage are strategies that may be particularly important for rural residents. In addition to expanding coverage for rural workers in their current jobs, these individual-focused components of ACA may have the effect of improving employment mobility for rural workers, and decrease the risk of becoming uninsured following an employment transition.

While ACA holds opportunities for expanding rural insurance coverage, the details of implementation and their effect of rural and urban participation remain uncertain. For example, while HIEs may increase insurance offerings to small employers and individuals, one of the factors by which HIE plans are allowed to vary their premiums is geography. Thus, the extent to which insurers identify rural residence as contributing to higher costs will affect the overall affordability of plans offered through HIEs to rural residents and firms. Additionally, we have

limited information about whether there are rural-urban differences in how individuals and businesses will respond to subsidies and other incentives and thus cannot conclude whether "take-up" rates will be the same or different in rural versus urban areas. Finally, the extent to which ACA reforms can create stable coverage for rural residents will depend, in part, upon how seamlessly transitions can be made between different coverage sources such as Exchange plans and Medicaid.

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APPENDIX: TABLES

TABLE 1

Insurance Status and Job Characteristics by Residence

Employed Adults Age 18 - 64

MEPS 2004, 2005 and 2006 Pooled Files

	All	MSA	Non-MSA
N=	40,185	33,501	6,684
Weighted N	139,678,688	117,604,464	22,074,224
INSURANCE STATUS			
Insurance Status *			
Employer coverage through current job	51.3	51.9	48.2
Other private coverage (incl self-employed)	22.5	22.3	23.8
Public coverage	5.8	5.8	5.7
Uninsured	20.3	20.0	22.3
JOB CHARACTERISTICS			
Employer Size*			
1 to 19 employees	38.5	37.2	45.0
20 or more	61.5	62.8	55.0
Occupation*			
Admin, prof or manager	49.2	50.7	41.2
Other	50.8	49.3	58.8
Employer Type*			
Private	84.6	85.4	80.3
Fed/State/Local Govt	15.4	14.6	19.7

* Difference between MSA/Non-MSA significant at p<.05 ; ** p <.01 ; *** p<.001

TABLE 2

Distribution of Employment Transitions by Residence
Employed Adults Age 18 - 64
MEPS 2004, 2005 and 2006 Pooled Files

	All	MSA	Non-MSA
N=	40,185	33,501	6,684
Weighted N	139,678,688	117,604,464	22,074,224
No Job Transition	77.4	77.5	77.4
Transition to New Job	13.6	13.7	13.1
Transition to No Job	9.0	8.9	9.5
Total	100.0	100.0	100.0
No Job Transition	77.4	77.5	77.4
Transition to New Job			
Full-time to Full-time	8.2	8.3	7.7
Full-time to Part-time	1.4	1.4	1.3
Part-time to Full-time	2.1	2.0	2.2
Part-time to Part-time	2.0	2.0	2.0
Transition to No Job			
Voluntary	3.1	3.1	3.2
Involuntary	5.8	5.8	6.3
Total	100.0	100.0	100.0

Note: No significant differences in the distribution of employment transition types by MSA/Non-MSA.

TABLE 3

Distribution of Insurance Coverage after Employment Transition by Rural Residence

	All Employed Adults Age 18 - 64				Employed Adults with Employer Coverage Prior to Transition			
	All	MSA	Non-MSA	Sig	All	MSA	Non-MSA	Sig
N=	40,185	33,501	6,684		19,648	16,522	3,126	
No Transition								
Employer coverage through current job	64.6	65.1	62.4	*	99.4	99.4	99.1	
Any private coverage	80.6	80.7	80.1		98.8	98.8	99.3	**
Any public coverage	4.6	4.6	4.1		1.6	1.6	1.6	
Uninsured	16.1	15.9	17.0		0.9	1.0	0.6	*
Transition to New Job								
Employer coverage through current job	28.3	29.3	23.3	**	49.4	50.6	41.1	*
Any private coverage	55.5	56.9	47.7	***	67.7	69.0	59.3	*
Any public coverage	7.0	6.8	8.0		2.6	2.3	4.2	
Uninsured	38.4	37.2	45.4	***	30.6	29.5	37.4	*
Transition to No Job								
Employer coverage through current job	--	--	--		--	--	--	
Any private coverage	40.9	41.3	39.1		43.6	44.2	39.9	
Any public coverage	15.0	14.6	16.9		6.6	6.0	10.1	
Uninsured	45.8	45.7	46.0		51.2	51.2	51.2	

Note: Insurance categories are not mutually exclusive so percentages to not sum to 100.

* Difference between MSA/Non-MSA significant at p<.05 ; ** p <.01 ; *** p<.001

TABLE 4

Logistic Regression Predicting Uninsured Status after Employment Transition
Population = All workers age 18-64

	MODEL I				MODEL II			
			95% Confidence Interval				95% Confidence Interval	
	OR	Sig	Lower	Upper	OR	Sig	Lower	Upper
Urban (MSA)	1.000				1.000			
Rural (Non-MSA)	1.131		0.963	1.328	1.045		0.894	1.221
No employment transition	1.000				1.000			
Transition to new job	3.173	***	2.874	3.503	3.749	***	3.080	4.562
Transition to no job	4.538	***	4.055	5.079	6.871	***	5.737	8.229
Transition to new x Rural	1.267	*	1.032	1.556	1.223		0.827	1.807
Transition to no job x Rural	0.881		0.690	1.125	0.689	+	0.464	1.025
Uninsured at T1					1.000			
Employer Insurance at T1					0.018	***	0.016	0.021
Other private at T1					0.010	***	0.008	0.012
Public insurance at T1					0.013	***	0.010	0.016
Large employer (20+) at T1					1.000			
Small employer (1-19) at T1					1.615	***	1.463	1.782
Admin, prof, mgr occupation					0.919		0.827	1.022
Other occupation					1.000			
Private sector employer					1.000			
Government employer					0.505	***	0.424	0.602
Northeast					1.000			
Midwest					1.123		0.925	1.364
South					1.305	**	1.085	1.569
West					1.224	+	0.994	1.507
< 100% FPL					1.000			
100 - 199% FPL					1.033		0.825	1.293
200% FPL+					0.581	***	0.471	0.716
Family size 1					1.000			
Family size 2					0.969		0.817	1.149
Family size 3-4					0.926		0.786	1.090
Family size 5 or more					1.008		0.818	1.243
Age 18 - 34					1.000			
Age 35 - 64					1.038		0.919	1.172
Less than HS degree					1.000			
HS/GED					0.823	**	0.723	0.935
College or more					0.566	***	0.474	0.675
Not married/No spouse					1.000			
Married/Spouse present					0.729	***	0.644	0.827
Male					1.000			
Female					0.820	***	0.749	0.898
White/Not Hispanic					1.000			
Not White/Not Hispanic					1.101		0.960	1.263
Hispanic					1.469	***	1.276	1.690
Excellent/V good health					1.000			
Fair/poor health					0.995		0.834	1.186

	N	37140		N	37140
	df	5		df	27
*** p<.001 ; **p<.01; *p<.05 ; +p<.10	-2 Log L	126,638,274		-2 Log L	60,241,063

TABLE 5

Logistic Regression Predicting Job Lock (No job transition)
Population = All workers age 18-64

	MODEL I				MODEL II			
			95% Confidence Interval				95% Confidence Interval	
	OR	Sig	Lower	Upper	OR	Sig	Lower	Upper
Urban (MSA)	1.000				1.000			
Rural (Non-MSA)	0.923		0.803	1.062	0.965		0.826	1.128
Uninsured at T1	1.000				1.000			
Employer Insurance at T1	3.392	***	3.094	3.718	2.073	***	1.864	2.306
Other private at T1	1.425	***	1.285	1.580	0.916		0.819	1.025
Public insurance at T1	0.983		0.849	1.138	0.961		0.835	1.105
Employer Ins x Rural	1.287	*	1.039	1.595	1.174		0.935	1.474
Other private x Rural	1.239	+	0.987	1.556	1.139		0.898	1.446
Public ins x Rural	0.868		0.646	1.167	0.882		0.652	1.195
Large employer (20+) at T1					1.000			
Small employer (1-19) at T1					1.040		0.972	1.112
Admin, prof, mgr occupation					1.173	***	1.083	1.270
Other occupation					1.000			
Private sector employer					1.000			
Government employer					1.590	***	1.422	1.778
Northeast					1.000			
Midwest					0.996		0.876	1.132
South					0.837	**	0.741	0.946
West					0.842	*	0.735	0.964
< 100% FPL					1.000			
100 - 199% FPL					1.484	***	1.304	1.688
200% FPL+					2.347	***	2.082	2.646
Family size 1					1.000			
Family size 2					0.911	+	0.818	1.015
Family size 3-4					0.891	*	0.796	0.997
Family size 5 or more					0.973		0.862	1.099
Age 18 - 34					1.000			
Age 35 - 64					2.399	***	2.239	2.571
Less than HS degree					1.000			
HS/GED					1.117	**	1.027	1.215
College or more					1.117	+	0.982	1.271
Not married/No spouse					1.000			
Married/Spouse present					1.536	***	1.419	1.664
Male					1.000			
Female					0.863	***	0.806	0.924
White/Not Hispanic					1.000			
Not White/Not Hispanic					0.982		0.902	1.070
Hispanic					1.263	***	1.133	1.408
Excellent/V good health					1.000			
Fair/poor health					0.793	***	0.717	0.876

	N	37140			N	37140	
	df	7			df	26	
	-2 Log L	130,888,857			-2 Log L	122,100,670	

*** p<.001 ; **p<.01; *p<.05 ; +p<.10

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