The Impact of Insurance Instability and Parental Job Loss on Children’s Health Insurance Coverage, Access, Utilization, and Satisfaction

Final Report for R40 MC 06633

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July 2010
I. Introduction
Under R40 MC 06633 study of two major topics related to Insurance Instability were undertaken. The first of these deals with the impact of insurance instability on children’s access, utilization, and satisfaction with health care. This topic was followed by the second related topic regarding the impact of parental job loss on children’s health insurance coverage. In this final report on R40 MC 06633 descriptions of both topics are included under each section.

Impact of Insurance Instability
The continuing erosion of employer-based health insurance coverage and the concomitant rise in the ranks of uninsured1 has led to renewed interest in policies to provide stable coverage. It is furthermore important to have a comprehensive understanding of the nature and impact of gaps in coverage. In the first portion of this study, longitudinal survey data was used to examine the impact of variations in coverage on children's health care access, utilization, and satisfaction.

We conceptualize insurance coverage as a dynamic process where individuals have coverage for varying lengths of time and movement between insured and uninsured states. We use the Medical Expenditure Panel Survey (MEPS) to describe patterns of insurance coverage, and in so doing, overcome some of the problems in past research with cross-sectional databases.

This section of the study assesses 2 critical questions: 1) How do patterns of insurance coverage vary for children? 2) How do differences in insurance coverage patterns affect presence of a usual source of care, having unmet medical and prescription needs, receipt of routine medical visits, and problems with medical care? We hypothesize that insurance coverage patterns are related to demographic characteristics, including race, ethnicity and income; we further hypothesize that insurance instability adversely affects access, use, and problems with care.

Results are presented indicating the percentage of children with continuous coverage as well as the percentage with given numbers of gaps in coverage. Differences in coverage stability were also determined with respect to sociodemographic and health variables including the child’s race/ethnicity, language, age, poverty status, region, family structure, and functional limitations, as well as parental educational attainment. Furthermore, the study ties stability of coverage to having a usual source of care, receiving routine preventive exams, and unmet medical needs.

Impact of Parental Job Loss
Amid a slower-than-desired recovery following a deep recession, unemployment in the United States remains high. In April 2010, the U.S. unemployment rate was 9.9 percent—sharply higher than the 5.0 percent rate that prevailed at the start of the recession in December 2007.2

The enactment of national health reform will eventually mitigate some of the effects of job loss by making coverage more stable, available, and affordable for millions of Americans. In the meantime, it is important to understand the relationship of job loss to family coverage in the present environment because while children may become eligible for, and enrolled in, public coverage after their parents’ job loss and the resulting drop in family income, many children are expected to become uninsured.3

With job losses increasing at rates not seen in recent years, it is important to examine their impact on children’s health care coverage. This study examines the impact of parental job loss on children’s coverage, and estimates the number of children affected by such losses. Differences for publicly versus privately covered children are presented, as well as which demographic groups (e.g. age, economic status, race/ethnicity, region) are most at risk of losing coverage when parents lose jobs.
II. Review of the Literature

How states are addressing the problem of Uninsurance – Many states are expanding public coverage, and a few states, such as Massachusetts and Pennsylvania, have enacted or proposed broad reforms aimed at providing near-universal coverage. Public concern about health care coverage is growing at the national level, and the reauthorization of the State Children's Health Insurance Program (SCHIP) has offered an important forum for policy debates on strategies addressing the insurance needs of children. Beyond this, recently passed health reform stands to cover more uninsured individuals.

Insurance Instability – Recent research documented a high prevalence of insurance instability for children and adults. Insured and uninsured are not static states, but rather dynamic conditions with individuals moving between insured and uninsured status and between public and private coverage, which is more frequent among low-income individuals, whose employment is less stable. Estimates of the number of uninsured persons—and thus, policymakers' conception of the magnitude of the problem—differ dramatically depending on whether the insurance statistics take into account gaps in coverage. For example, although 6.6 million children were uninsured for a full year in 1999, almost double that number (11.4 million) were uninsured at some point during the year. The Current Population Survey, which is the usual source for statistics on insurance status, categorizes "uninsured" as those who have been uninsured for a full year, so the magnitude of the problem is understated.

Effects of Uninsurance and Coverage Gaps – Early research on effects of coverage focused simply on differences between insured and uninsured, not taking into account instability. Those studies found uninsured children more likely to lack a usual source of care, experience delays in receiving appropriate care, have unmet needs, and fewer routine and well-care visits. More recent research has recognized the continuity issue and examined explicitly the effect of continuous coverage compared with part-year coverage and lack of coverage. These studies have shown the deleterious effect of being uninsured, even for part of a year. Specifically, children with part-year coverage are more likely than children insured for a full year to lack a usual source of care, to be without well-child visits, to delay care, and have unmet needs.

Prior studies, even those examining effects of partial coverage, have used cross-sectional surveys to assess the effect of gaps in coverage. These studies rely on respondent recall to assess amount of time uninsured. Furthermore, these studies generally examine impact over the course of only 1 year. Studies of coverage patterns over longer time periods were undertaken for adults but have not focused on children, used recent data, or assessed outcomes related to insurance patterns.

Health Insurance and Parental Unemployment – Health insurance coverage is often tied to employment, and so job loss is often accompanied by the loss of that coverage which can affect not only the individual with the coverage, but his or her entire family. Prior studies of the effect of job loss on coverage have focused on adults, and have demonstrated a clear relationship between job loss and loss of health care coverage. The effect of parental job loss on their children’s health care coverage has been less well studied. Despite the fact that the impact of parental job loss on children’s health coverage may be buffered by public insurance programs, projections show large increases in both uninsured and in public programs.

III. Study Design and Methods

Data Source – The Medical Expenditure Panel Survey (MEPS) was used for this study. MEPS provides nationally representative estimates for insurance coverage, access, utilization, and satisfaction with health care, as well as other sociodemographic variables. We also used data from MEPS to ascertain the
effect of parental job loss in a given month on children’s health care coverage as parental job status and child insurance status are included in the survey. More information about MEPS can be found at: http://www.meps.ahrq.gov/mepsweb.23

**Methods for the Impact of Insurance Instability**

*Analysis File* – The MEPS insurance component was used to determine insurance coverage patterns for children. The adult-level and child-level sociodemographic and health data from the MEPS household component were merged with the insurance records to create our analysis file, using the child as the unit of analysis. A power analysis was conducted showing a 90% power to detect a 5% change in probability that an outcome would reverse. Children age 0-15 at the beginning of each panel were used. Sample size for the 3 panels used in this study is 12,270.

**Variables**

- **Outcome Variables** – Variation in insurance coverage patterns for children and the influence of that variability on access, utilization, and satisfaction were the primary concerns.
- **Independent Variables** – Insurance coverage was the independent variable of interest, created by using monthly reports of insurance coverage. We grouped insurance patterns into 5 mutually exclusive categories allowing comparison those without insurance coverage, or with 1 or multiple gaps to those with continuous coverage. We used children with continuous private coverage as the reference group.
- **Control Variables** – To assess the independent impact of variations in insurance patterns on children's health care, we controlled for several variables. We used the health behavior model developed by Aday, Andersen, and Phillips and colleagues.25-27
  - Predisposing variables – child's age, race/ethnicity, highest educational level attained by an adult family member, family structure, language of interview, and geography
  - Enabling variables included family income and health insurance
  - Need variables included health status and health limitations

**Statistical/Data Analysis** – We combined MEPS panels 5, 6, and 7 to create a larger data set that provides more precise estimates. Person-level weights provided by the data collection agency were used. Cases with missing values were eliminated from the analysis. Analyses were conducted using both SAS (SAS Institute, Cary, NC) callable SUDAAN (SUDAAN 9.0; RTI International, Research Triangle Park, NC) as well as the PROC SURVEY techniques in SAS, which take into account the complex survey design.

Bivariate analysis was used to assess the relationship between sociodemographic and health characteristics and insurance status. We then examined the relationship between insurance status and the health care outcome variables by using bivariate comparisons. Finally, to assess the independent effects of insurance patterns on health care outcomes, we conducted multivariable logistic regressions, controlling as described above. We present adjusted odds ratios (AORs) and 95% confidence intervals (CIs). All comparisons described are significant at the P<.05 level.

**Methods for the Impact of Parental Job Loss**

*Analysis File* – We combined data from the MEPS Household Component from four separate survey panels: panel 5, 6, 7, and 8. Job status and demographic data about the parent were merged with reported insurance status and demographic data for the children in the house. We included children from birth through age fifteen at the beginning of each two-year panel.
Our analysis file consisted of “job event” records for each parent, showing whether he or she lost employment in that month. To these records, we appended data on “insurance events” for each of three subsequent months. The event count can include multiple job losses.

Variables – The outcome variable for this study was a child’s becoming uninsured during a given three-month period following parental job loss. Insurance loss for any child in a family was coded as a loss. Moving from one type of coverage to another was not counted as a loss. Coverage status and type (public or private) was indicated for each month.

The explanatory variable was whether any parent in the household had lost a job during the preceding month for months one through twenty-one of the two-year panel. Loss of the main job or a job change to a so called miscellaneous job counts as a job loss.

Control variables included the child’s race/ethnicity, age, language in which the interview was conducted, the child’s geographic region of residence, household income, the child’s health limitations and physical health status (measured at the beginning of the two-year panel).

Statistical/Data Analysis – We analyzed job and insurance events from all twenty-four months of a given MEPS panel. Cases with missing values, which constituted 5 percent of cases, were eliminated from that round in the analysis. We weighted the data with longitudinal person-level weights provided by the data collection agency and performed analyses using PROC SURVEY in the statistical software SAS, which incorporated Primary Sampling Unit and stratum variables necessary (first and second levels of sampling) to account for the complex (multilevel) survey design, and allowing proper division of data into subsets equal to the subsample of interest.

We used univariate analysis to determine the overall distribution of loss of insurance coverage and job loss. We conducted multivariable logistic regressions to assess the independent association of parental job loss in a given month to loss of child insurance coverage in the next three months, controlling for the variables described above.

Continuously uninsured children/unemployed parents were not included in the analysis. Chi-square analyses were used to assess the differences in children losing coverage following job loss and children who did not. We used a more conservative alpha of 0.01 as opposed to 0.05 because we made numerous comparisons, and so allowed us to avoid erroneously declaring results significant (preventing type I errors). We calculated a small set of ideal profiles from the logistic regression for selected combinations of variables to make policy points.28, 29

IV. Detailed Findings
Insurance Coverage Patterns
We found that 53% of children were continuously covered by private insurance during the entire 2-year panel period, 19% were continuously insured with public coverage during the panel period, whereas 6% had no insurance coverage at any time during the panel period. Over one fifth of children experienced 1 or more gaps in coverage during the 2 years. Although only 2% of all children experienced multiple gaps in coverage (having an average length of gap of 5.3 months), fully 20% of children experienced a single gap, whether that be a transition into coverage (40%), a transition out of coverage (24%), or a single break in coverage (37%). The mean length without coverage for those with a single gap was 7.3 months. Data not shown indicate that 68% of children who had multiple gaps in coverage initially had public insurance and 32% initially had private insurance. For children with a single gap in coverage, 55% initially had public insurance and 45% initially had private insurance.
Demographic and Socioeconomic Variables
Insurance coverage patterns differed with respect to sociodemographic and health variables. Proportionally more Hispanic children experienced insurance instability, although accounting for 18% of the child population, they accounted for 39% of uninsured children and 30% of children with multiple gaps in coverage. Older adolescents were more likely than younger to not have any insurance during the 2-year period. Spanish-speaking parents reported that their children were more likely to have no insurance or to have gaps in coverage. Poverty status and educational attainment for the adult respondent demonstrated similar patterns. Those on the lower ends of the economic and educational spectrum were more likely to experience gaps or an absence of insurance than those with higher incomes or more education. Regional differences occurred as well, as in the South children were more likely to have either a lack of insurance coverage or disruptions in coverage than children in other regions. Children living in single parent households were also more likely to experience lack of insurance coverage as well. Finally, although most reported that their children's health was good to excellent and that they had no health limitations, children reported in fair or poor health or with functional limitations were more likely to be continuously insured with public insurance than any of the other groups.

Health Care Outcomes
Data from our bivariate analysis of insurance patterns and their relationship with health care outcomes demonstrated that children who lacked insurance coverage or experienced gaps in coverage were more likely than those with continuous coverage to not have a usual source of medical care or a routine preventive care exam during the past year, and were more likely to have at least 1 unmet medical need. There was, however, little difference among the insurance categories on having at least 1 problem with medical care.

We also found unadjusted and AORs for the effects of insurance on access, utilization, and problems with medical outcomes. Results from the adjusted analysis confirm the bivariate relationships. That is, the insurance effects persisted after controlling for age, poverty status, race/ethnicity, region of country, language of interview, family structure, highest educational attainment for family member responding to the survey, health status, and health limitations. Although the strength of the relationships between insurance coverage patterns and the access and utilization variables attenuated with the addition of the control variables, the AORs remained significant. These differences were most pronounced for the access variables. When compared with children continuously insured by private insurance, continuously uninsured children had 4 times (AOR = 4.5; 95% CI, 3.3-6.4) higher odds of reporting that their children lacked a usual source of care, whereas those children with multiple gaps had 3 times higher odds of not having a usual source of care (AOR = 3.5; 95% CI, 1.9-6.4). Likewise, continuously uninsured children had 3 times (AOR = 3.4; 95% CI, 1.8-6.2) higher odds of having at least 1 unmet need, whereas those with multiple gaps had 4 times (AOR = 4.2; 95% CI, 1.9-9.8) higher odds, and those with a single gap had 4 times (AOR = 4.5; 95% CI, 2.9-7.2) higher odds of having an unmet medical or prescription need when compared with children with continuous private coverage. Interestingly, we found that among children with continuous coverage, those with public coverage had 3 times (AOR = 3.1; 95% CI, 1.8-5.4) higher odds of having an unmet need as those with private coverage.

Job Losses And Insurance – Overall there were 26,676 instances of parental job loss and 42,716 instances of no loss in months one through twenty-one (37 percent and 63 percent, respectively). In the subsequent three-month period, there were 9,203 instances in which a child lost insurance and 41,147 instances of no loss (16 percent and 84 percent, respectively). Data are events, not people; parents who lost jobs more than once in the two-year period are counted more than once; likewise, children who lost insurance more than once are counted more than once.
When Parents Lose Jobs, Children Lose Private Insurance – Parental job loss in a given month had a significant effect on the odds of a child’s losing insurance in the subsequent three months. Controlling for the effect of sociodemographic variables, children whose parents lost jobs were almost four times as likely to lose insurance, compared with children whose parents experienced no job loss (adjusted odds ratio or OR = 3.93; p < 0.0001, which means that the results are very unlikely to be due to chance).

When the effect of parental job loss on insurance loss for children was examined separately for publicly and privately insured children the pronounced differences in the effect of job loss on the two groups of children became clear. For privately insured children, those whose parents lost jobs were more than six and a half times more likely to lose insurance coverage than those whose parents did not lose jobs (adjusted OR = 6.58, p < 0.0001, again highly unlikely to be due to chance). Publicly insured children experienced a much smaller effect of parental job loss on their coverage (adjusted OR = 1.55, p < 0.01, again unlikely to be due to chance).

The odds ratios for individual variables show that young, poor, Hispanic children who live in the West are the most likely to lose insurance coverage when their parents experience job loss. The probability that children with those characteristics will lose coverage is 52 percent, while the probability of insurance loss for a child with similar characteristics whose parent does not lose a job is only 14 percent. For a similarly young, poor, Hispanic child living in the West who has public insurance, the probability that he or she will lose coverage is 39 percent if a parent loses a job, compared to 30 percent if a parent does not lose a job.

The Most Vulnerable Children Lose Coverage – We focused in on privately insured children because they are the most likely to lose coverage following parental job loss. Publicly insured children have relatively high levels of coverage loss whether or not their parents lose jobs (approximately one-quarter; data not shown). For every 1,000 children with private insurance, 311 lose coverage when their parents lose a job. The effects of poverty on this group of children were especially pronounced. Children in families earning less than 200 percent of the federal poverty level were particularly vulnerable to losing private coverage when their parents lost jobs. For every 1,000 low-income children with private coverage, 456 of them lose coverage when a parent loses a job.

The fact that almost 30 percent of all privately insured children whose parents lose jobs are low income is an important finding (data not shown). However, losses are high at all income levels. High proportions of privately insured children of all racial or ethnic groups lose coverage when their parents lose jobs. The highest rates of all, however, are among Hispanic children, 40 percent of whom lose private coverage when their parents lose jobs.

V. Discussion and Interpretation of Findings

Impact of Insurance Instability
This is the first study, to our knowledge, that describes children's patterns of health insurance coverage over an extended time period. Although we found the most common pattern over the 2-year study period to be continuous coverage through either public or private insurance, substantial numbers of children had single or multiple gaps or were uninsured for the entire time. Our analysis showed that most of the children who lacked coverage at some time had a single gap—12.8 million nationally—but an additional 1.5 million had multiple gaps, and 3.8 million were uninsured the entire time. Together, this means that 18.1 million children lacked coverage for all or part of the 2-year period. The prevalence of no insurance (either continuous or in the form of gaps) over the 2-year period in our study, at 28%, is substantially higher than the finding of Tang and colleagues7 of almost 20% experiencing at least some
period without insurance, using a single year of data from the National Health Interview Survey. Hence, when longer time periods are considered, higher proportions of children are shown to experience episodes of no insurance.

This study found that children with gaps or those continuously uninsured had higher odds of lacking a usual source of care, not having well-care visits, and having unmet medical needs, which substantiates prior work by Duderstadt and colleagues\textsuperscript{16} and Olson and colleagues\textsuperscript{17} The AORs for unmet needs for continuously uninsured is smaller than the OR for those having a gap in insurance, possibly indicating that these children may be systematically different than children with gaps. However, the CIs for these AORs overlap, thus limiting our ability to draw inferences. Among continuously insured children, there was no difference between those with private and public coverage in the likelihood of having a usual source of care or well-care visits. This implies that continuity of coverage may be more important than type of coverage for these important outcomes. However, publicly insured children did have more unmet medical and prescription drug needs than privately insured children. It also should be noted that children continuously insured with public coverage were more likely to be from low-income families and in depressed health status than children in the other insurance categories. Although we adjusted for these risks in the multivariable models, it may be that children whose parents make the effort to recertify their children for public coverage are different and perhaps more needy than other children.

With respect to having at least 1 problem with medical care, there were only small differences among the groups in adjusted odds of having at least 1 reported medical care problem (such as having physician show respect, having confidence in the providers, being listened to, spending adequate time, and being satisfied with care). Taken together, these results suggest that insurance status may play a larger role in affecting entry into health care than it does in affecting the quality of relationships with providers once children are in the health care system.

**Conclusions** – This study suggests that stable, continuous coverage raises the likelihood that children will have a usual source of care and receive timely well-child care. These outcomes are fundamental components of high-quality health care. The national debates often focus on policies to extend coverage to presently uninsured and ignore problems of instability. That debate should incorporate discussions of policies promoting not only expansions of coverage, but also initiatives to eliminate gaps in coverage.

**Limitations** – This study of patterns of coverage and their relationship to health care outcomes has several limitations. First, for those children with gaps in coverage, the gap or transition could have been at any point in the 2 years, whereas the questions about outcomes were asked at the end of the 2 years. Thus, this group included children with gaps near the time that the questions on outcomes were administered, as well as children with gaps earlier in the 2-year panel period. Second, MEPS reports coverage on a monthly basis; gaps of less than 1 month are not ascertained. Third, we are able to show associations between coverage patterns, and access to and use of care over time, but because the timing of data collection for insurance status and health care outcomes can overlap, our ability to draw causal conclusions is somewhat limited. Fourth, using outcome measure in round 4 may underestimate the effect of insurance gaps on access, utilization, and having at least 1 problem with medical care, and insurance coverage issues may have been resolved by the end of the panel period for individuals with gaps early in the study. Finally, MEPS relies on self report and recall. In particular, respondents may not accurately know or remember insurance status, especially for public coverage. Although report of coverage is likely to be much better in MEPS (MEPS asks respondents to recall their coverage on a monthly basis over 4-month reference periods) than in cross-sectional surveys that require recall over the past year, there still may be inaccuracies.
Impact of Parental Job Loss
Privately insured children were more than six and a half times more likely to become uninsured if their parents lost jobs than were children whose parents remained employed. Furthermore, the most vulnerable privately insured children—those who are poorest and Hispanic—were most likely to become uninsured when their parents lost jobs. Not surprisingly, the effect of parental job loss on publicly insured children was far less severe.

Overall, for every 1,000 jobs lost, 311 privately insured children lost coverage, with even greater losses among low-income children. These findings are noteworthy. Children in low-income families may have fewer options for retaining their coverage than those in higher-income families.

For example, extending employer-based insurance coverage through provisions of the Consolidated Omnibus Budget Reconciliation Act (COBRA) would allow children to retain coverage, even if their parents lost or left jobs. However, exercising this option requires the parents to have sufficient funds for the COBRA payments, which is unlikely in low-income families. Federal assistance to allow individuals to purchase and maintain COBRA coverage, as enacted in 2009 and extended in 2010, has the potential for providing protection for these families. However, the assistance may be too small to permit a widespread adoption of COBRA coverage.

More telling is the finding that 456 low-income, privately insured children become uninsured for every 1,000 parental jobs lost. These low-income children who have lost private coverage should be eligible for public insurance, especially through the expanded eligibility provisions of the Children’s Health Insurance Program Reauthorization Act (CHIPRA), which became law in 2009. Even before this reauthorization of CHIP, forty-four states expanded CHIP eligibility to children in families with incomes at or above 200 percent of the federal poverty level. Yet our study shows that substantial numbers of low-income children do not take advantage of the opportunity to acquire public health insurance, at least not within the three months after a parent loses a job.

Prior studies have highlighted the considerable instability that occurs in public programs, with children moving into a program and then out again, often after a gap of only a few months. The instability may be attributable to many reasons, including problems such as difficulty filling out paperwork, at the time of coverage renewal. The study on which this article is based has demonstrated that instability in public coverage is high for children, whether or not their parents lose jobs, with an insignificant difference between the two groups.

Thus, insurance loss in public programs appears to be more related to features of the program than to parental employment. This is not surprising, because the eligibility criteria for public programs are related to income and residence rather than parental employment status. In fact, because job losses are usually accompanied by losses in family income, children are more likely to be eligible for public health insurance programs after the job loss than before.

Strengths And Limitations – This study has strengths and limitations. It is one of the few examinations of the impact of parental job loss on children’s coverage and is highly relevant in today’s economy. One of its limitations is the fact that it relies on parental reporting and recall. Because the interview interval is shorter than in most surveys, respondents’ recall is likely to be better than that of respondents in other surveys, but it may still be inexact.

Another limitation is that we examined the immediate effect of parental job loss on children’s coverage. Although some states (fourteen in 2008) enroll children who are presumed to be eligible when they
apply, in other states it may take time before a child can be enrolled in public coverage. Future research could analyze the length of time without coverage, what health care occurred during that gap, and what factors influence the length of the gap.

Policy Implications – The findings from this study have policy implications for reforming health care and insurance coverage, in that they argue for more available and affordable coverage for children in the event of parental job loss. In particular, much more effort is needed to make sure that children enroll in public insurance programs when their parents become unemployed. Our study demonstrates that children in families earning less than 200 percent of the federal poverty level are most at risk of losing coverage when their parents lose jobs. These children are eligible for public coverage in almost all states. Happily, the incentives for enrollment and the funds for outreach contained in CHIPRA have the potential to help provide coverage for these eligible children.

Numerous studies have documented the positive effects of insurance coverage on access to and use of services, as well as on outcomes in some cases. Still others have shown that even short gaps in coverage lead to poorer outcomes. Hence, maintaining health care coverage through transitions in life, such as parental job loss, is important for optimal health care and outcomes.

The economic downturn of 2007–9 increased caseloads for Medicaid and CHIP at the same time that state revenues were on the decline. Funds made available to states under the American Recovery and Reinvestment Act helped expand or maintain publicly provided children’s health insurance despite the downturn and the reduction in tax revenues. With unemployment still high, there are now additional opportunities under the CHIP reauthorization legislation to modify procedures for determining children’s eligibility for coverage under Medicaid and CHIP. In particular, waiting periods and other eligibility barriers might be waived during times of economic crisis.

Hispanic children are especially vulnerable to loss of coverage when their parents lose jobs. Hence, it would be helpful to use culturally and linguistically appropriate media in making additional outreach efforts.

VI. List of products


- This was presented at the Child Health Research Meeting in Washington, DC, 7 June 2008.
- Additionally this has been picked up on many websites. Below are a few examples
References


