

Original Investigation

The Evolving Dynamics of
Employer-Sponsored Health Insurance:
Implications for Workers, Employers,
and the Affordable Care Act

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Policy Points:

- Increasingly, Americans are relying on coverage through a family member to maintain continuous insurance when their own employer-sponsored insurance (ESI) ends. Meanwhile, employers have responded by limiting access to and imposing surcharges on dependent coverage elections.
- Between 2005 and 2013, adults who transitioned off ESI became likely to enroll in a non-group plan and were twice as likely to become uninsured. Special Enrollment Period enrollment figures under the Affordable Care Act (ACA) suggest these dynamics have not meaningfully changed since 2014.
- Moving forward, more Americans will rely on alternative sources for affordable health insurance outside the ESI system. New ACA outreach efforts are needed to identify and enroll the large and increasing number of individuals who face the end of ESI benefits throughout the year.

Context: Employer-sponsored insurance (ESI) is the predominant form of health insurance coverage in the United States, yet little is known about transitions into and out of ESI or whether turnover has increased over time.

Methods: We fit multistate dynamic transition models for adults aged 18-61 using Survey of Income and Program Participation data from 2005-2007 to 2010-2013 and preliminary Medical Expenditure Panel Survey from the period 2012-2014.

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Findings: Over a 2-year period beginning in 2010, 34.6% of adults with ESI experienced a change, up from 31.7% in 2005-2007. Transitions occurred most frequently among young adults, Hispanic adults, low-income adults, those in fair or poor health, and service industry workers. But even the groups with the lowest turnover—older adults, married adults, and those with a college degree—had 2-year rates of change of up to 30%. The probability that an ESI policyholder regained an employer-based policy after a job change declined by 15% between 2005 and 2013. Meanwhile, the probability that an ESI policyholder enrolled as a dependent on another family member's plan or became uninsured increased twofold. We found little evidence of changes in these dynamics during the first year (2014) of the Affordable Care Act's (ACA) major coverage reforms.

Conclusions: Increasingly, Americans are relying on dependent ESI coverage through a family member to maintain continuous insurance when their own employer-based benefits end. Those who transitioned off ESI were also less likely to enroll in a non-group plan and were twice as likely to become uninsured. The first year of the ACA did not see material changes in the likelihood that an ESI-insured adult became uninsured or switched to an alternative public or private plan. New ACA outreach efforts are needed to identify and enroll the large and increasing number of individuals who face the end of ESI benefits throughout the year.

Keywords: health insurance, Affordable Care Act, employer-sponsored insurance.

EMPLOYER-SPONSORED INSURANCE (ESI) HAS SERVED AS THE backbone of the US health insurance system for more than 3 generations. As of 2013, 54% of people under age 65 received coverage through an employer.¹ Among those with ESI, 49% were policyholders and 51% were covered as a dependent on a family member's plan.²

The predominance of ESI can be traced to several factors, including administrative economies of scale, efficient risk pooling within large firms, and favorable tax treatment—all of which can lead to lower costs for ESI compared to similar plans purchased in the individual, non-group market.³ These factors, as well as competition among employers for labor, have led to ESI plans that have historically featured generous and comprehensive benefits.⁴ This, in turn, has enshrined ESI among the most popular benefits among American workers.^{5,6}

Despite its prevalence and popularity, employer-based insurance has undergone significant recent shifts in its composition and availability.^{7,8}

Sustained growth in health care costs have caused employers to scale back the generosity of covered services, shift a greater share of costs to workers in the form of higher deductibles, and restrict eligibility for additional family members and retirees.^{7,8} Combined with trends toward greater job mobility and weaker labor market participation after the Great Recession, these factors indicate a reduction in the number of individuals with access to ESI at a given time. Moreover, these factors may also increase the likelihood that people either become uninsured or use alternative forms of insurance during their working years.⁹ Reflecting these trends, between 2000 and 2013, the share of the non-elderly population with ESI declined from 69% to 54%.^{1,10}

In this context, developing a better understanding of the changing dynamics of ESI is important because the 2010 Affordable Care Act (ACA) was largely constructed around the chassis of the employer-based health insurance system. For example, the ACA's Employer Shared Responsibility provisions penalize firms that either do not offer ESI or that offer plans that do not meet affordability standards.¹¹ Moreover, individuals who have access to an affordable ESI plan are ineligible to receive subsidies to offset the cost of plans purchased on the state and federal marketplaces.^{11,12} A key source of financing of these subsidies and other components of the ACA is the so-called Cadillac tax levied on the most expensive ESI plans; if implemented, this tax is projected to bring \$87 billion in new tax revenue—roughly 10% of the total cost of subsidies—over the next decade.^{13,14} Finally, the ACA requirement that employer plans cover dependents until age 26 has been successful in reducing the uninsured rate among young adults.¹⁵

The changing dynamics of ESI will clearly have important consequences not only for the employer-based insurance system but also for components of the ACA built around that system. The objective of the present study is to investigate these dynamics by providing estimates of transitions into and out of ESI. Specifically, we draw upon multistate dynamic transition models to show how rates of ESI entry and exit changed between 2005 and 2013 for key demographic and socioeconomic groups. We then draw upon early 2014 data to examine whether these rates materially changed in the first year of the ACA. Our goal in doing so is to examine the extent of turnover in ESI plans and to investigate whether that turnover has increased in recent years. We utilize this information to inform understanding among workers, their employers, and

policymakers over how changes to the employer-sponsored insurance system may affect enrollment and financing of health insurance more broadly in the United States.

Methods

Data

Our primary data source is self-reported data from the 2004 and 2008 waves of the Survey of Income and Program Participation (SIPP). The SIPP is a nationally representative panel survey of US households conducted by the Census Bureau.¹⁶ SIPP households are interviewed in person at baseline and then by phone or in person every 4 months for up to 5 years.¹⁶

As described below, in additional analyses we also draw upon preliminary 2012-2014 data from the Medical Expenditure Panel Survey (MEPS). We did not utilize the MEPS for our main analyses because the SIPP sample covered a longer longitudinal period (up to 5 years vs 2 years in the MEPS) and because its much larger sample of adults (63,833) was sufficiently powered to conduct our analyses among population subgroups.

Our analytic sample includes longitudinal data on 2 cohorts of non-elderly adults: (1) those aged 18-61 as of June 1, 2005 (for the 2004 SIPP panel) and (2) those aged 18-61 as of May 1, 2010 (for the 2008 SIPP panel). We used these age ranges to isolate individuals who would not age into the Medicare program over the study period. We selected these dates because they corresponded to the timing of the SIPP's topical module on health status and utilization.

Restricting the study to the 2010-2013 period also allowed us to focus on a period of growth in the US economy that was comparable to the 2005-2007 period. For example, US job growth averaged 162,000 per month over 2005-2007 and 159,000 per month in 2010-2013.¹⁷ This indicates that the rate at which unemployed individuals gained access to employment (and possibly health insurance benefits) was similar in both study periods.

We measured each individual's monthly insurance status using a mutually exclusive coverage hierarchy that classified insurance coverage based on whether the individual was (1) a policyholder of an ESI plan, (2) a dependent on a family member's ESI plan, (3) covered by a

non-group plan, (4) covered by public coverage (eg, Medicaid or the State Children's Health Insurance Program), or (5) was uninsured. Individuals with multiple sources of coverage were classified according to which source was highest on this hierarchy. Coverage from a former employer obtained through COBRA or another state or federal transitional coverage program was attributed to the original ESI plan. All other sources of private insurance were classified as individual, non-group coverage.

Using the above categories, we classified each person's baseline insurance status as of June 1, 2005, for the 2004 SIPP cohort or May 1, 2010, for the 2008 SIPP cohort. We then selected the sample of individuals with ESI—either as a policyholder or as a dependent—as of that date. These inclusion criteria resulted in a sample of 63,833 adults with ESI.

We followed each of these individuals over the remainder of their time in the survey and recorded transitions out of the original ESI plan. By combining self-reported data on job changes and reports of ESI through a current or former employer, we were able to differentiate between coverage changes where an ESI policyholder obtained a new ESI plan from a new employer or became a dependent on a family member's plan from transitions due to job changes. For example, an adult with ESI benefits could switch to a new job that also offers ESI; we constructed our analytic approach to be able to capture these types of ESI plan changes. We view this as an important contribution because, to date, little is known about the extent of ESI plan switching. ESI plan changes can carry important consequences—for example, different provider networks, cost-sharing, and plan benefits. Our analytic strategy was constructed so that we could investigate the extent to which adults with ESI might experience these types of changes.

Other Measures

To investigate differences in rates of ESI entry and exit by demographic and socioeconomic characteristics, we used additional SIPP measures on age, race/ethnicity, household income relative to the poverty line, gender, marital status, self-reported health status, and the North American Industrial Classification System industry category for ESI policyholders. All measures reflected the individual's characteristics as of the baseline month.

Statistical Analysis

Our statistical analyses focused on 2 quantities of interest. The first was the cumulative probability of transition in each month after baseline. These probabilities estimated the likelihood that an individual with ESI coverage would transition to another ESI plan or coverage type or to an uninsured spell. Transition probabilities were estimated for up to 32 months of follow-up for the 2005-2007 SIPP cohort and 44 months of follow-up for the 2010-2013 SIPP cohort.

Transitions were fit using nonparametric multistate transition models that account for right censoring that may occur due to attrition or the end of the survey.¹⁸⁻²⁰ Specific transition probabilities were estimated based on the cumulative hazard function, which was estimated using the nonparametric Aalen-Johansen estimator.^{21,22} Separate models were fit for ESI policyholders and dependents. Each model was also fit with separate baseline hazards for each transition type.

For ESI policyholders our models captured transitions to (1) an ESI plan through a new employer, (2) another ESI plan held by a family member (ie, dependent ESI coverage), (3) a non-group plan, (4) public insurance, or (5) an uninsured spell. For ESI dependents we modeled transitions to (1) a new ESI plan in which the individual was the policyholder, (2) a non-group plan, (3) public insurance, or (4) an uninsured spell.

To investigate how rates of ESI entry and exit evolved between 2005 and 2013, we fit the above models separately for the 2005-2007 cohort and the 2010-2013 cohort. These models also served as the basis for our second quantity of interest, which was the *change* in the cumulative probability of transition between 2005-2007 and 2010-2013. Using this quantity we were able to investigate, for example, whether by 12 months people were more likely to exit their ESI plan and become uninsured in 2010-2013 compared to 2005-2007.

Our nonparametric estimates also allowed us to test whether 2005-2007 to 2010-2013 changes were proportional over the 32 months of available follow-up in both cohorts. This proportionality allowed us to summarize 2005 to 2013 changes in the likelihood of transition to each coverage type by fitting semiparametric Cox proportional hazard models.²³ These ratios summarized the 2005-2007 versus 2010-2013 change in the “hazard” (ie, the probability of transition at a point in time) of ESI plan exits over a 32-month follow-up period. Further details on

these hazard ratios and their interpretation are provided in the results section below.

Limitations

Where possible, all analyses are adjusted to account for the complex sampling design of the SIPP. However, the estimated baseline hazards were nearly identical in unweighted analyses (see Supplementary Materials online). This was important for some analyses because one limitation of the Aalen-Johansen estimator (which utilizes the baseline hazard as an input) is that the statistical methodology has not yet been extended to account for complex sampling designs as found in the SIPP.¹⁸

Our results may also provide an underestimate of ESI turnover for several reasons. First, we only consider the first transition out of ESI. Some individuals experience multiple transitions over a 3-year period, and these additional transitions are not reflected in our estimates. Similarly, an employer may switch insurance carriers for all employees, and these plan switches would not be captured in our estimates. Second, for this study we are interested in the coverage experience of people after a defined baseline date, not the *total* amount of time they spend in an ESI plan. Thus, our sample is drawn from the prevalent cohort of individuals with ESI as of the baseline date. A well-documented statistical feature of longitudinal analyses of prevalent cohorts is that they may be over-representative of individuals in long spells.^{24,25} Our sample, therefore, may over-represent individuals who remain on ESI for longer periods. If these individuals are less likely to subsequently leave their ESI plan, then this may also lead to underestimates of ESI transitions.

In addition, to merge SIPP topical module data on underlying health status at baseline, and to better align the underlying macroeconomic conditions across cohorts, we selected individuals who remained in the survey for up to 5 rounds for the 2004 SIPP cohort and for 6 rounds for the 2008 SIPP cohort. Previous research on SIPP respondents matched with administrative income data has shown that young (age 18-24) individuals with nonpositive earnings are more likely to drop out after the first survey round.²⁶ Since these population groups are observed to change plans more frequently in our study, our estimates may also underestimate the overall rate of ESI transitions if individuals with those characteristics are under-represented in our sample.

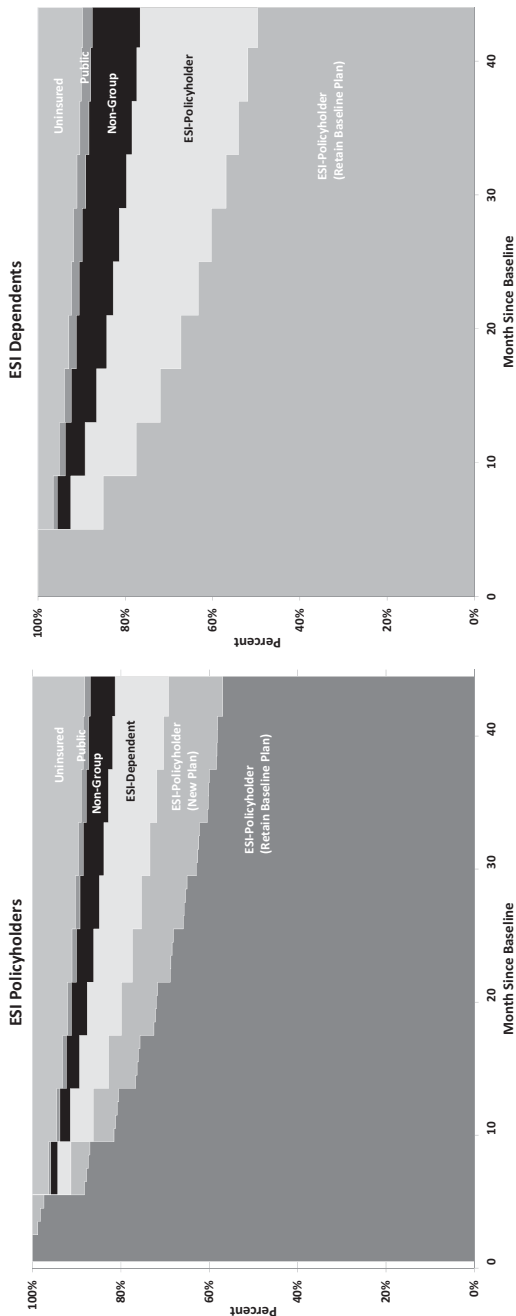
An additional limitation of the SIPP is the tendency of respondents to report plan changes at the beginning of each 4-month reference period, rather than in the other months of the period.²⁷ This “seam bias” may manifest in transitions estimated to occur 1-3 months before they actually occur. Notably, seam effects are most pronounced within 4-month intervals and, generally, even out across 4-month blocks.²⁵ For this reason we report on estimates for months that are multiples of 4 (ie, 24-month transition rates).

Finally, our goal for this descriptive study was to analyze time periods that were sufficiently far apart to uncover trends that may sustain over the short and long term. While we endeavored to be careful in our choice of years, our results must be interpreted in light of the underlying macroeconomic conditions in each study period. For example, we explicitly avoided analyses of the 2008-2009 period because the underlying macroeconomic conditions during the peak of the Great Recession were not likely to sustain. Had we focused on the 2008-2009 period rather than 2005-2007, we would have found a substantial number of transitions from ESI. But this would have reflected the fact that the US economy was in the midst of massive and unprecedented layoffs as much as it would have reflected other long-term dynamics that inform the availability and take-up of ESI. Clearly, the trends we identify after the 2007-2009 recession will reflect both longer-term dynamics (eg, the impact of rising health care costs on plan generosity and employer offering decisions), as well as the effects of the recession. A limitation of our descriptive study is that we are unable to disentangle these longer-term changes from the shorter-term dynamics attributable to the Great Recession.

Results

Figure 1 plots cumulative transition probabilities for the 2010-2013 cohort. Nearly one-third (31.9%) of policyholders transitioned out of their original ESI plan within 24 months. Many ended up on another employer plan: by 24 months, 9.3% of all policyholders had transitioned to a new employer plan (ESI Policyholder [New Plan]), while 8.8% transitioned to an employer plan held under a family member's name (ESI Dependent). In addition, 3.9% had enrolled in a non-group plan, 1.0% ended up on public coverage, and 8.9% became uninsured. Among

Figure 1. Transitions from Employer-Sponsored Health Insurance, Policyholders and Dependents, 2010-2013



Notes: Each panel shows the percentage of adults with employer-sponsored health insurance (ESI) who remain insured and who transition to new coverage types or to an uninsured spell in each month after baseline. Transition probabilities are shown separately for ESI policyholders and dependents.

Source: Authors' analysis of 2008 Survey of Income and Program Participation data.

dependents, 39.7% had transitioned by 24 months—21.1% to their own ESI plan, 8.5% to a non-group plan, 1.9% to public insurance, and 8.2% to an uninsured spell.

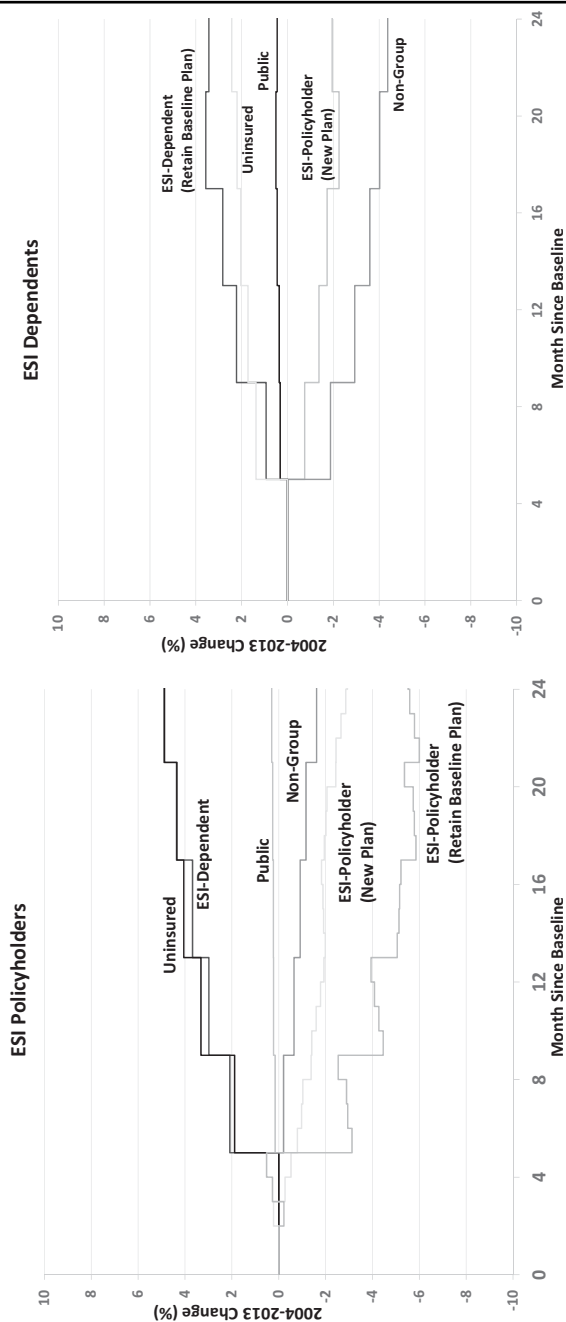
Within a 3-year period 40% of ESI policyholders and nearly half of dependents (48.1%) experienced a coverage change from their initial employer plan. Most ended up in other sources of private insurance; however, approximately one-quarter of policyholders and one-fifth of dependents became uninsured. In population terms this amounts to 43.5 million adults with ESI experiencing a coverage change over a 36-month period, with 8.8 million becoming uninsured.

One question is whether these estimates reflect stable turnover in the ESI system or whether coverage transitions were more or less likely in 2010–2013 compared to earlier years. To answer this question, Figure 2 plots our second quantity of interest: the *change* in cumulative transition probabilities between 2005–2007 and 2010–2013. The *x*-axis is identical to Figure 1—that is, months of follow-up since the baseline coverage month—while the *y*-axis plots the change in cumulative transition probability for each coverage category. Points above the horizontal line at 0 indicate that transition rates were higher for that coverage type in 2010–2013 compared to 2005–2007, while negatively valued points indicate a lower transition rate.

The lines marked “ESI-Policyholder” in the left panel of Figure 2 show that ESI policyholders were less likely to retain that coverage in 2010–2013 as compared to their counterparts in 2005–2007. After 24 months, 73.6% of policyholders remained insured under their initial employer plan in 2005–2007 versus 68.1% in 2010–2013—a difference of 5.5 percentage points. This difference (–5.5%) is the point on the line at the 24-month mark in Figure 2. Similarly, as shown by the line marked “ESI-Dependent” in the right panel of Figure 2, adult ESI dependents were 3.3 percentage points more likely to remain on that plan after 24 months.

In addition to a lower likelihood of staying on their original plan, ESI policyholders also faced reduced probabilities for transitioning to another ESI plan in their own name or to a non-group plan. Instead, these individuals were more likely to either become dependents on a family member’s plan (ESI-Dependent) or to become uninsured. At 24 months, the probability of transition from an ESI plan to a family member’s plan more than doubled, increasing by 4.9 percentage points from 3.9% to 8.8%. Similarly, the probability that an ESI policyholder

Figure 2. Change in Cumulative Transition Probabilities by Month, 2005-2007 to 2010-2013



Notes: Each panel shows the change from 2005-2007 to 2010-2013 in the cumulative probability of transition to each coverage type from the original employer-sponsored health insurance (ESI) plan. Positively valued points indicate that the probability of transition from the original ESI plan to that coverage was higher in 2010-2013 than in 2005-2007, while negatively valued points indicate a reduction in the transition probability.

Source: Authors' analysis of 2004 and 2008 Survey of Income and Program Participation data.

lost that coverage and became uninsured also doubled, increasing by 4.9 percentage points from 4.0% to 8.9%.

Tables 1 and 2 summarize 24-month transition rates for 2010-2013, as well as changes in those rates between 2005-2007 and 2010-2013. The tables further examine heterogeneity in these rates for key demographic and socioeconomic groups. Transition rates are shown for ESI policyholders; analogous estimates for dependents are available in the Supplementary Material online.

The first column of Table 1 summarizes overall ESI transitions at 24 months—that is, the percentage of ESI policyholders who experienced *any* coverage change within a 2-year period. These estimates show that transitions out of ESI were most pronounced for young adults (44.5%), low-income adults (56.3%), Hispanic adults (40.4%), and those without a high school or equivalent degree (45.8%). Coverage transitions were least pronounced for older adults (24.6%), higher income adults (28.7%), and those with a college degree or more (28.4%)—though it is noteworthy that roughly one-quarter or more of ESI policyholders in *every* group experienced a coverage change.

Tables 1 and 2 also decompose the overall transition rate by coverage destination. The probability of transition to a New ESI (Policyholder) plan was highest for the youngest adults (14.9%), for unmarried adults (10.8%), and for adults with a college degree or more (11.0%). Transitions to ESI-dependent coverage were highest among young adults (10.5%), females (10.4%), married adults (11.8%), and higher income adults (10.3%). Finally, the probability of losing ESI and becoming uninsured was highest for low-income adults (23.4%), Hispanic adults (22.2%), and those without a high school or equivalent degree (27.2%). Notably, rates of ESI loss to uninsured spells were about twice as high for adults with self-reported fair or poor health status (16.9%) than for adults with excellent or very good health (8.0%).

Tables 1 and 2 also provide estimates summarizing the magnitude of changes in the “hazard” (ie, the point-in-time transition probability) for each insurance type between 2005-2007 and 2010-2013. For example, we noted above that from 2005-2007 to 2010-2013 the cumulative transition probability from New ESI (Policyholder) plan to an uninsured spell increased from 3.7% to 7.9% at 24 months. The ratio between these 2 numbers (2.13) approximates the relative change in the hazard (at 24 months) of becoming uninsured. The hazard ratios in Tables 3 and 4 provide similar information; however, as noted in the methods section,

Table 1. 24-Month Cumulative Transition Rates and 2005-2007 vs 2010-2013 Hazard Ratios by Characteristic for Employer-Sponsored Insurance Policyholders

	Overall 24-Month Transition Rate	New ESI Plan (Policyholder)		New ESI Plan (Dependent)		Non-Group Plan	
		2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)
All Adults	31.9%	9.3%	0.83 (0.77-0.89)	8.8%	2.53 (2.27-2.81)	3.9%	0.73 (0.65-0.82)
Age Group							
18-34	44.5%	14.9%	0.85 (0.77-0.93)	10.5%	2.19 (1.85-2.60)	3.8%	0.66 (0.54-0.80)
35-44	29.9%	9.2%	0.85 (0.73-0.98)	8.5%	2.59 (2.10-3.18)	3.2%	0.70 (0.55-0.88)
45-54	26.1%	6.5%	0.86 (0.73-1.01)	7.7%	2.68 (2.21-3.26)	4.1%	0.84 (0.69-1.04)
55-64	24.6%	5.1%	0.86 (0.68-1.08)	8.2%	3.90 (2.71-5.63)	4.9%	0.68 (0.51-0.89)
Gender							
Female	33.3%	9.1%	0.82 (0.74-0.92)	10.4%	2.50 (2.19-2.84)	3.9%	0.68 (0.57-0.81)
Male	30.7%	9.4%	0.84 (0.76-0.91)	7.4%	2.55 (2.16-3.01)	3.9%	0.77 (0.68-0.89)
Household Income							
<100% FPL	56.3%	14.3%	0.76 (0.53-1.09)	5.6%	1.66 (0.73-3.76)	7.8%	0.90 (0.52-1.56)
100-200% FPL	42.0%	9.4%	0.65 (0.52-0.83)	4.7%	1.84 (1.23-2.77)	4.4%	0.67 (0.48-0.92)
200-400% FPL	32.6%	9.0%	0.83 (0.74-0.93)	7.6%	2.26 (1.86-2.75)	3.7%	0.67 (0.54-0.83)
>400% FPL	28.7%	9.2%	0.86 (0.78-0.96)	10.3%	2.77 (2.43-3.16)	3.8%	0.76 (0.65-0.88)

Continued

Table 1. Continued

	New ESI Plan (Policyholder)			New ESI Plan (Dependent)			Non-Group Plan		
	Overall 24-Month Transition Rate	2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)		
Race/Ethnicity									
White, non-Hispanic	30.2%	9.9%	0.90 (0.84-0.97)	9.2%	2.71 (2.39-3.08)	4.2%	0.78 (0.68-0.89)		
Black, non-Hispanic	34.6%	7.1%	0.65 (0.52-0.80)	7.0%	2.39 (1.65-3.46)	2.9%	0.67 (0.47-0.95)		
Hispanic	40.4%	6.6%	0.58 (0.45-0.77)	7.1%	1.96 (1.32-2.92)	2.0%	0.36 (0.23-0.56)		
Other	34.0%	9.3%	0.72 (0.53-0.97)	9.3%	1.82 (1.24-2.68)	4.3%	0.88 (0.54-1.41)		
race/ethnicity									
Marital Status									
Unmarried	34.0%	10.8%	0.77 (0.70-0.85)	4.2%	2.20 (1.72-2.82)	4.0%	0.75 (0.65-0.87)		
Married	30.3%	8.2%	0.89 (0.80-0.98)	11.8%	2.64 (2.36-2.96)	3.8%	0.71 (0.61-0.82)		
Education									
No high school or GED	45.8%	6.6%	0.73 (0.51-1.04)	5.8%	2.16 (1.24-3.76)	3.9%	0.58 (0.33-1.01)		

Continued

Table 1. *Continued*

	Overall 24-Month Transition Rate	New ESI Plan (Policyholder)		New ESI Plan (Dependent)		Non-Group Plan	
		2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)
High school or GED	35.7%	6.9%	0.70 (0.58-0.85)	9.7%	2.34 (1.88-2.92)	3.5%	0.72 (0.57-0.89)
Vocational or trade degree	32.9%	7.6%	0.72 (0.56-0.91)	8.0%	2.42 (1.74-3.38)	3.4%	0.68 (0.47-0.99)
Some college	32.1%	9.7%	0.81 (0.70-0.92)	8.6%	2.22 (1.84-2.69)	4.1%	0.79 (0.63-0.99)
College degree or more	28.4%	11.0%	0.91 (0.82-1.02)	8.9%	3.10 (2.60-3.69)	4.2%	0.72 (0.62-0.84)
Baseline Health							
Status							
Excellent or very good	32.0%	9.6%	0.86 (0.80-0.94)	9.4%	2.67 (2.37-3.01)	4.2%	0.79 (0.71-0.88)
Good	30.6%	8.8%	0.78 (0.68-0.89)	7.0%	2.23 (1.76-2.82)	3.3%	0.63 (0.47-0.86)
Fair or poor	35.8%	6.1%	0.50 (0.34-0.74)	7.3%	1.69 (1.05-2.70)	2.5%	0.32 (0.17-0.62)

Abbreviations: CI, confidence interval; ESI, employer-sponsored insurance; FPL, federal poverty level; GED, General Educational Development test.
Source: Authors' analysis of 2004 and 2008 Survey of Income and Program Participation data.

Table 2. 24-Month Cumulative Transition Rates and 2005-2007 vs 2010-2013 Hazard Ratios by Characteristic for Those With Public Insurance and the Uninsured

	Public Insurance		Uninsured	
	2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)
All Adults	1.0%	1.28 (0.96-1.69)	8.9%	2.31 (2.06-2.58)
Age Group				
18-34	1.9%	1.56 (1.08-2.24)	13.4%	2.36 (2.00-2.79)
35-44	0.9%	1.35 (0.74-2.48)	8.1%	2.35 (1.96-2.81)
45-54	0.7%	1.20 (0.62-2.32)	7.1%	2.16 (1.75-2.67)
55-64	0.2%	0.41 (0.15-1.12)	6.2%	2.89 (2.06-4.05)
Gender				
Female	1.5%	1.38 (0.97-1.96)	8.4%	2.47 (2.12-2.89)
Male	0.6%	1.10 (0.70-1.71)	9.4%	2.20 (1.91-2.55)
Household Income				
<100% FPL	5.2%	0.90 (0.50-1.60)	23.4%	1.94 (1.30-2.90)
100-200% FPL	2.7%	1.18 (0.69-2.04)	20.8%	2.54 (2.01-3.20)
200-400% FPL	1.1%	1.16 (0.75-1.79)	11.2%	2.58 (2.19-3.04)
>400% FPL	0.5%	1.79 (1.03-3.11)	4.9%	1.93 (1.61-2.30)
Race/Ethnicity				
White, non-Hispanic	0.6%	1.82 (1.14-2.89)	6.3%	2.12 (1.83-2.45)
Black, non-Hispanic	2.2%	1.17 (0.70-1.95)	15.4%	2.35 (1.82-3.03)

Continued

Table 2. *Continued*

	Public Insurance		Uninsured	
	2010-2013 Transition Rate	Hazard Ratio (95% CI)	2010-2013 Transition Rate	Hazard Ratio (95% CI)
Hispanic	2.5%	0.94 (0.52-1.70)	22.2%	2.90 (2.34-3.60)
Other race/ethnicity	1.2%	0.80 (0.40-1.60)	9.9%	2.02 (1.43-2.84)
Marital Status				
Unmarried	1.5%	1.14 (0.78-1.67)	13.5%	2.32 (2.02-2.66)
Married	0.7%	1.49 (0.96-2.31)	5.8%	2.27 (1.92-2.67)
Education				
No high school or GED	2.3%	0.89 (0.44-1.78)	27.2%	2.27 (1.72-2.99)
High school or GED	1.9%	1.60 (1.02-2.53)	13.7%	2.37 (1.99-2.84)
Vocational or trade degree	1.7%	1.68 (0.85-3.30)	12.2%	2.76 (2.05-3.70)
Some college	0.9%	1.49 (0.83-2.66)	8.8%	2.51 (2.04-3.09)
College degree or more	0.3%	0.96 (0.49-1.89)	4.0%	2.66 (2.10-3.36)
Baseline Health Status				
Excellent or very good	0.8%	1.28 (0.91-1.81)	8.0%	2.27 (1.96-2.63)
Good	1.3%	1.56 (0.92-2.64)	10.2%	2.42 (1.94-3.01)
Fair or poor	3.0%	0.89 (0.42-1.89)	16.9%	2.19 (1.60-3.01)

Abbreviations: CI, confidence interval; ESI, employer-sponsored insurance; FPL, federal poverty level; GED, General Educational Development test.
 Source: Authors' analysis of 2004 and 2008 Survey of Income and Program Participation data.

they have been estimated using a Cox proportional hazards model. Thus, these ratios summarize the increased or decreased likelihood of transition across all follow-up months, not just a single month. The corresponding hazard ratio estimate for transitions to uninsured spells is 2.17—which is very similar to the implied hazard ratio of 2.13 at 24 months in the example above.

The hazard ratio estimates in Tables 1 and 2 show that nearly all groups of ESI policyholders faced a reduced likelihood of transition to a New ESI (Policyholder) plan in 2010-2013. However, adults in fair or poor health (HR = 0.50) and lower-income households (HR = 0.65) saw the largest reductions.

Mirroring our finding from Figure 2, hazard ratios were also positive and statistically significant for ESI policyholder transitions to dependent coverage and for uninsured spells. In particular, hazard ratios were highest for ESI dependent transitions for adults aged 55-64 (HR = 3.90), adults with income over 400% of the federal poverty level (FPL; HR = 2.77), and people with college degrees (HR = 3.10). Transitions from ESI to uninsured spells were higher in every group considered.

In Tables 3 and 4 we consider whether coverage transitions were more pronounced for policyholders working in certain industries. Our estimates indicate that transitions out of ESI were least prevalent in public administration, with 24-month cumulative transition rates for ESI policyholders of 17.5% in 2010-2013—the lowest of any group we considered. Transitions were most common in the services industry, with nearly half of individuals in the accommodation and food service industry (47.5%) ending their initial ESI coverage within 2 years. Table 3 shows that roughly half of these service industry workers either transitioned to a new ESI plan or were able to secure insurance through a family member. However, over a 24-month period 19.8% lost their ESI coverage and became uninsured. The hazard ratio estimates also show that ESI policyholders in nearly every industry were more likely to transition to an uninsured spell in 2010-2013 as compared to 2005-2007.

Preliminary Evidence from the ACA

Because the 2008 SIPP panel ended in December 2013, and because the first year of data (2013) from the redesigned 2014 SIPP had not been released as of this writing, SIPP data are not yet available to investigate how ESI dynamics have changed since the rollout of the

Table 3. 24-Month Cumulative Transition Rates and 2005-2007 vs 2010-2013 Hazard Ratios by Industry for Employer Sponsored Insurance Policyholders

Industry	New ESI Plan (Policyholder)			New ESI Plan (Dependent)			Non-Group Plan		
	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-07 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate
Agriculture, forestry, fishing and hunting, and mining	35.8%	0.79 (0.34- 1.81)	9.1%	0.79 (0.34- 1.81)	3.7%	2.30 (0.55- 9.62)	3.0%	0.69 (0.20- 2.44)	
Arts, entertainment, and recreation, and accommodation and food services	47.5%	0.65 (0.47-0.89)	10.9%	0.65 (0.47-0.89)	9.9%	1.34 (0.83-2.15)	5.4%	0.64 (0.39-1.05)	
Construction	38.5%	0.64 (0.46-0.88)	10.3%	0.64 (0.46-0.88)	8.1%	3.16 (1.93-5.18)	3.8%	0.62 (0.36-1.08)	
Educational services, and health care and social assistance	29.5%	0.76 (0.66-0.88)	8.8%	0.76 (0.66-0.88)	9.7%	2.83 (2.32-3.45)	3.0%	0.65 (0.51-0.83)	

Continued

Table 3. Continued

Industry	New ESI Plan (Policyholder)			New ESI Plan (Dependent)			Non-Group Plan		
	Overall 24-Month Transition Rate	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-07 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)
Finance and insurance, and real estate and rental and leasing	32.1%	10.9%	0.82 (0.62-1.09)	11.0%	2.99 (2.07-4.31)	3.3%	0.65 (0.42-1.01)		
Manufacturing	27.4%	9.4%	1.11 (0.90-1.38)	6.5%	2.36 (1.73-3.22)	2.5%	0.86 (0.59-1.27)		
Other services, except public administration	39.8%	9.3%	0.77 (0.52- 1.14)	9.1%	1.63 (0.96- 2.78)	5.0%	0.74 (0.40- 1.36)		
Professional, scientific, and management, and administrative, and waste management services	33.8%	12.2%	0.70 (0.57- 0.87)	9.6%	2.29 (1.58- 3.30)	3.8%	0.64 (0.44- 0.92)		
Public administration	17.5%	5.5%	1.05 (0.77-1.44)	5.3%	2.18 (1.45-3.26)	1.2%	0.66 (0.35-1.22)		
Retail trade	38.0%	9.5%	0.65 (0.52-0.81)	9.7%	2.43 (1.83-3.22)	3.2%	0.61 (0.42-0.91)		
Wholesale trade	34.4%	9.9%	1.28 (0.86- 1.90)	10.0%	4.76 (2.39- 9.49)	3.5%	0.80 (0.43-1.48)		

Abbreviations: CI, confidence interval; ESI, employer-sponsored insurance.

Source: Authors' analysis of 2004 and 2008 Survey of Income and Program Participation data.

Table 4. 24-Month Cumulative Transition Rates and 2005-2007 vs 2010-2013 Hazard Ratios by Industry for Those With Public Insurance and the Uninsured

Industry	Public Insurance		Uninsured	
	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)	2010-2013 24-Month Transition Rate	Hazard Ratio 2004-2007 vs 2010-2013 (95% CI)
Agriculture, forestry, fishing and hunting, and mining	2.9%	8.98 (0.88-92.16)	17.1%	1.83 (0.79-4.26)
Arts, entertainment, and recreation, and accommodation and food services	1.5%	0.61 (0.23-1.62)	19.8%	2.02 (1.44-2.84)
Construction	0.6%	0.48 (0.11-2.14)	15.7%	2.19 (1.47-3.25)
Educational services, and health care and social assistance	1.0%	0.94 (0.57-1.54)	7.0%	3.23 (2.52-4.15)
Finance and insurance, and real estate and rental and leasing	0.9%	2.47 (0.85-7.17)	6.0%	2.43 (1.61-3.68)
Manufacturing	0.5%	1.50 (0.70-3.21)	8.5%	2.33 (1.75-3.10)
Other services, except public administration	3.0%	3.06 (0.86-10.90)	13.4%	3.19 (1.85-5.53)
Professional, scientific, and management, and waste administrative, and waste management services	0.9%	2.95 (0.72-12.05)	7.3%	1.67 (1.22-2.28)
Public administration	0.3%	0.79 (0.15-4.14)	5.2%	2.95 (1.75-4.98)
Retail trade	1.1%	1.22 (0.55-2.69)	14.5%	2.66 (2.00-3.53)
Wholesale trade	1.3%	2.81 (0.60-13.07)	9.7%	2.97 (1.61-5.48)

Abbreviations: CI, confidence interval; ESI, employer-sponsored insurance.

Source: Authors' analysis of 2004 and 2008 Survey of Income and Program Participation data.

ACA's major coverage expansions began in January 2014. Fortunately, recently released (but still preliminary) data from the MEPS allow us to investigate whether ESI dynamics changed in 2014. The MEPS fields a much smaller sample than the SIPP and, therefore, was not sufficiently large to serve as the basis for our main analyses on many of the important subgroups identified above. However, using the preliminary MEPS data we were able to compare ESI-policyholder transition rates for 2 adult cohorts: panel 17 (spanning 2012-2013) and panel 18 (2013-2014). Notably, individuals in MEPS panel 18 experienced the first year of the ACA's coverage expansions in the second year they were in the survey. Our MEPS results rely on identical sample inclusion and methods as our main results above; the only difference is that we apply these methods to the MEPS data.

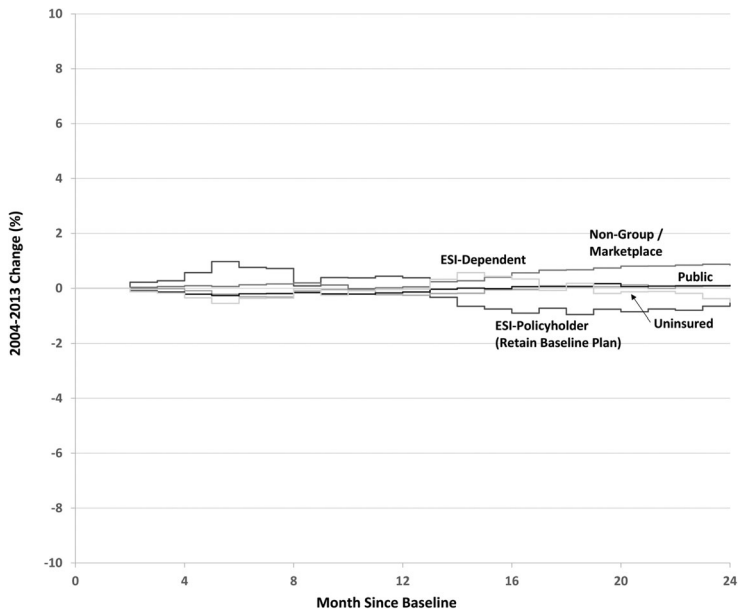
Figure 3 plots the MEPS analyses and shows that in large part, transition rates out of ESI did not change in the first year of the ACA's coverage expansions. The figure is analogous to Figure 2 above, with the key exception being that all points to the right of the vertical dotted line reflect changes in transition probabilities in 2014 relative to the earlier period. In other words, if the ACA's coverage expansions were associated with a lower likelihood of transitioning from ESI to an uninsured spell, then we would expect to see negatively valued points in Figure 3 for the points to the right of the dotted line.

Figure 3 shows that there were very few changes in ESI transitions in the post-2014 period compared to the pre-2014 period. To the extent there were any changes, they appear to be concentrated among ESI policyholders having a slightly higher probability of transitioning to non-group coverage (ie, marketplace plans). Transition rates from ESI to uninsured spells remained identical as compared with the pre-ACA period, as did transition rates from ESI to public coverage. We discuss the implications of these results below.

Discussion

Our study provides important new evidence on the degree of turnover in the US employer-based health insurance system. Over a 2-year period beginning in 2010, 34.6% of adults with ESI aged 18-61—approximately 35.1 million people—experienced a coverage change. This rate was up from the 31.7% who transitioned over a 24-month period starting in

Figure 3. Change in Cumulative Transition Probabilities by Month, 2012-2013 vs 2013-2014



Notes: Each panel shows the change from 2012-2013 to 2013-2014 in the cumulative probability of transition to each coverage type from the original employer-sponsored health insurance (ESI) plan. Positively valued points indicate that the probability of transition from the original ESI plan to that coverage was higher in that month in 2013-2014 compared to 2012-2013, while negatively valued points indicate a reduction in the transition probability.

Source: Authors' analysis of preliminary Medical Expenditure Panel Survey data.

2005. ESI transitions occurred most frequently among young adults, Hispanic adults, low-income adults, those in fair or poor health, and service industry workers. But even the groups with the lowest turnover—older adults, females, married adults, and those with a college degree—had 2-year transition rates of up to 33%.

The evolving composition of ESI transitions is also noteworthy. We find that increasingly, Americans are relying on coverage through a spouse or family member to maintain continuous insurance after their own employer-based health benefits end. Overall ESI coverage rates declined from 59.8% in 2005 to 53.9% by 2013.^{28,29} One reason for this decline is a reduction in the percentage of private-sector firms offering ESI. Whereas this percentage remained relatively stable between 2004 (55.1%) and 2006 (55.8%), the share of firms offering ESI fell from 53.8% in 2010 to 49.9% by 2013 and 47.5% by 2014.³⁰ Correspondingly, we find that the probability that an ESI policyholder was able to find his or her own employer-based policy after a job change declined by 15% between 2005 and 2013. Meanwhile, the probability that an ESI policyholder enrolled as a dependent on another family member's plan increased twofold. Notably, this trend was just as pronounced for older adults as for younger adults eligible under the ACA's dependent coverage provision that began in September 2010.³¹

Workers who transitioned off ESI were also less likely to enroll in a non-group plan and were twice as likely to become uninsured in 2010-2013 as compared to 2005-2007; we find that these transition rates did not materially change in the first year of the ACA's coverage expansions. To put these results in perspective, had ESI-to-uninsured transition probabilities remained the same in 2010-2013 as in 2005-2007, and had individuals either maintained their original ESI plan or enrolled in another type of insurance, approximately 4.1 million fewer people would have become uninsured.

It is noteworthy also that cross-sectional estimates of dependent coverage as a share of all ESI recipients remained relatively stable over our study period. Among all non-elderly ESI recipients, 50.8% were covered as dependents in 1999-2000 compared to 51.4% in 2010-2011.² Our results indicate that these aggregate, cross-sectional estimates mask significant churn below the surface. For example, our finding of an increased reliance on ESI-dependent coverage among people who began with ESI was matched with a decline in transitions to ESI-dependent coverage among adults who were uninsured at baseline; the one exception was uninsured young adults aged 18-26, for whom the probability of dependent ESI increased—most likely as a consequence of the ACA's dependent coverage provision, which went into effect in September 2010. On net, when factoring in transitions from all coverage types, we find

that the total number of adults with dependent ESI increased by about 2.6 million by 2013.

Finally, our preliminary findings on the post-2014 period are significant because it is important to know whether our finding of reduced rates of non-group coverage enrollment from ESI was reversed when the state and federal marketplaces began operating in 2014. We find very modest—but statistically insignificant—evidence that this was the case. However, it is noteworthy that transitions from ESI to uninsured spells were virtually unchanged in 2014 compared to the earlier years. This indicates that the ESI dynamics we identify in our main results do not appear to have meaningfully changed in 2014.

Implications for Workers and Firms

Because health insurance is just one component of an employee's total compensation package, employers face trade-offs between distributing overall compensation in the form of wages versus other fringe benefits. Previous research has demonstrated that when the cost of health insurance goes up, employers respond with downward adjustments to other forms of compensation such as hours and wages.³²⁻³⁵ In 2014 employers contributed, on average, about 75% of the costs of family coverage and employee-plus-one coverage.³⁰ Moreover, in 2015 the average annual premium for a single plan was \$6,251 versus \$17,545 for a family plan.⁸

Our study shows more employees are availing themselves of family and spouse-plus-one coverage when a family member's ESI benefits end. In other words, the probability of electing a (more expensive) family or employee-plus-one plan has increased. These additional dependent coverage elections could occur during an annual open enrollment period or during a special enrollment period triggered by that family member's loss of ESI.

This new dynamic will increase the cost of ESI to an employer, even if the price of insurance remains fixed. To see this, note that expected benefit cost of ESI is equivalent to the probability of selecting a family plan multiplied by the cost of that plan, plus the probability of selecting a single plan multiplied by the single plan cost ($\text{Cost_ESI} = \text{Pr(Family)} * \text{Cost_Family} + (1 - \text{Pr(Family)}) * \text{Cost_Single}$). Thus, if the probability of selecting a family plan increases, the expected cost of ESI increases as well.

To the extent that overall compensation levels adjust to reflect the additional costs of dependent coverage elections, then this relatively new ESI market dynamic—coupled with general pressures on premiums from health care cost growth—could also be an additional factor that helps explain why US workers have seen modest wage growth in recent years.⁷ It also helps explain why employers are increasingly moving toward defined benefit health insurance plans; assessing surcharges for dependent coverage; or, in some cases, eliminating dependent coverage altogether.^{36,37} For example, in a recent employer survey, 20% of firms reported assessing spousal surcharges for ESI plans in 2013, with an additional 13% intending to do so in 2014.³⁶ Overall, between 2010 and 2013, 70% of firms reported increasing the employee share of premiums, with dependent coverage costs increasing at a higher rate than single coverage costs. Our results provide important context for the market conditions that may have contributed to these trends.

Implications for the ACA

A key focus of ACA outreach efforts has been identifying uninsured people who may be eligible for Medicaid or for subsidized non-group coverage purchased in a state or federal marketplace. However, entering the 2016 open enrollment period there were concerns over the difficulty of identifying and enrolling those who remained uninsured. In late 2015 the Department of Health & Human Services projected total 2016 marketplace enrollment of 11.0 million to 14.1 million people.³⁸ Most of this enrollment was expected to come from among individuals already enrolled in marketplace plans (7.3 million to 8.8 million). The remainder was expected to come from among the uninsured (2.8 million to 3.3 million) and those transitioning from non-group plans purchased outside the state and federal marketplaces (0.9 million to 1.5 million).

A key group not represented in these totals is people who may become eligible during a special enrollment period (SEP) triggered by the loss of ESI. Our results for 2010-2013 demonstrate that over a 12-month period, approximately 5.8 million adults lost their employer benefits and became uninsured. An additional 3.6 million transitioned from ESI to non-group coverage.

This group of nearly 10 million adults (per year) represents an important population of potential marketplace enrollees who could be enrolled

during a SEP. Thus far, however, SEP enrollment has been relatively tepid, with gross enrollment totals averaging around 1.1 million people per year.³⁸ Among other things, low enrollment has been attributed to the lack of a coordinated outreach and messaging strategy for individuals who may become eligible during a SEP.³⁸ Reflecting these factors, our preliminary findings using 2014 MEPS show that transition rates from ESI coverage to uninsured spells remained virtually unchanged in the first year of the ACA's expansions.

Our results highlight the importance of policy and private-sector efforts to ensure that marketplaces offer plans that appeal to ESI-insured individuals facing the end of their employer-sponsored health benefits—particularly for those without access to a dependent ESI coverage option through a family member. We find that transitions from ESI to uninsured spells were more pronounced for young adults (18-34) and lower-income (100%-200% FPL) adults. These 2 groups are important for ACA enrollment efforts because the former group represents a relatively healthy population that can improve risk pooling, while the latter group is likely eligible for premium and cost-sharing subsidies to offset the cost of marketplace plans. These 2 populations, in other words, are groups that have been widely identified as crucial for the ACA to maintain a functioning non-group market and to make coverage affordable and reduce the number of uninsured. To reach more of these individuals, our findings suggest that private insurers consider offering low-cost, narrow-network plans to individuals facing the loss of ESI. Moreover, policy efforts are needed to facilitate streamlined enrollment in transitional plans for individuals losing ESI. These outreach and enrollment strategies might focus on the services industry, where nearly half of employees with ESI ended their coverage over a 3-year period.

Conclusion

In this study, we fit nonparametric multistate transition models to investigate the degree of turnover in the US employer-based health insurance system. What we find is an ESI system in which more adults are relying on dependent coverage through a family member when their own ESI benefits end. As the ACA's coverage expansions entered their second year, ESI policyholders were also just as likely to become uninsured as to enroll in their own new ESI plan.

These trends indicate that more and more people will likely rely on alternative sources of health insurance outside of the employment-based system. At the very least, those with access to ESI coverage through a family member will increasingly avail themselves of that option. This makes it imperative that employers and policymakers reconsider how employment-based insurance will interface with the broader US health insurance system. As the ACA's major coverage reforms enter their fourth full year, it will be particularly important to ensure that insurance carriers are able to offer low-cost plans that appeal to individuals with ESI who currently become uninsured. Moreover, it will be important to move beyond outreach and enrollment strategies focused on identifying the uninsured during open enrollment. Rather, to both reduce the number of uninsured and improve risk pooling within state and federal marketplaces, additional efforts will be needed to identify and enroll the large and increasing number of individuals who face the end of their employment-based benefits throughout the year.

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Supplementary Material

Additional supporting information may be found in the online version of this article at [http://onlinelibrary.wiley.com/journal/10.1111/\(ISSN\)1468-0009](http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1468-0009):

Supplemental Figure 1. Difference in Estimated Survival Rates Between Weighted and Unweighted Analysis

Supplemental Table 2. 24-Month Cumulative Transition Rates and 2005-07 vs. 2010-13 Hazard Ratios by Characteristic For Employer Sponsored Insurance Dependents