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Recent Health Insurance Trends for US Families: Children Gain While Parents Lose

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Abstract

In the past decade, political and economic changes in the United States (US) have affected health insurance coverage for children and their parents. Most likely these policies have differentially affected coverage patterns for children (versus parents) and for low-income (versus high-income) families. We aimed to examine—qualitatively and quantitatively—the impact of changing health insurance coverage on US families. Primary data from interviews with Oregon families (2008–2010) were analyzed using an iterative process. Qualitative findings guided quantitative analyses of secondary data from the nationally-representative Medical Expenditure Panel Survey (MEPS) (1998–2009); we used Joinpoint Regression to assess average annual percent changes (AAPC) in health insurance trends, examining child and parent status and type of coverage stratified by income. Interviewees reported that although children gained coverage, parents lost coverage. MEPS analyses confirmed this trend; the percentage of children uninsured all year decreased from 9.6 % in 1998 to 6.1 % in 2009; AAPC = -3.1 % (95 % confidence interval [CI] from -5.1 to -1.0), while the percentage of parents uninsured all year rose from 13.6 % in 1998 to 17.1 % in 2009, AAPC = 2.7 % (95 % CI 1.8–3.7). Low-income families experienced the most significant changes in coverage. Between 1998 and 2009, as US children gained health insurance, their

parents lost coverage. Children's health is adversely affected when parents are uninsured. Investigation beyond children's coverage rates is needed to understand how health insurance policies and changing health insurance coverage trends are impacting children's health.

Keywords

Health insurance; Access to care; Health services research; Health policy; Health care disparities; Children's health care

Introduction

In recent years, significant changes in children's health insurance coverage policies have occurred in the United States (US). The Children's Health Insurance Program (CHIP), established in 1997, increased federal and state funding for children's public health insurance [1]. During its first ten years, seven million children gained coverage through the CHIP [2–4]. Policy-makers in Oregon asked us to design a study to better understand whether the CHIP was enabling families to access coverage for their children, and, more broadly, how these health insurance policies were impacting them. We conducted interviews with a purposive sample of Oregon families between 2008 and 2010. During this time period, the federal government enacted the Children's Health Insurance Program Reauthorization Act (CHIPRA) and the Patient Protection and Affordable Care Act (PPACA) [5–7]. The enactment of these policies during the study period allowed us to query families during a time in which health insurance reform was in the spotlight.

Although interview questions were designed to focus on families' experiences with *children's health insurance*, parents spontaneously offered narratives about their own loss of coverage. To further investigate if the coverage trends we heard about from Oregon families were being experienced nationally, we conducted secondary analyses of nationally-representative data from the 1998–2009 Medical Expenditure Panel Survey-Household Component (MEPS-HC). In this mixed-methods study, our qualitative findings guided a quantitative analysis of the MEPS-HC [8], in which we examined trends in coverage for US children and their parents. This study contributes to the literature by using interview data to design analysis of national health insurance data from children and their parents together over a 12-year time period; most previous work has not used qualitative data to inform quantitative analysis, has focused quantitative analyses on children but not parents, or has examined only one point in time [9–12].

Methods

Qualitative Phase: Interviews with Oregon Families

Participants—The sample was drawn from families who participated in the 2006 Oregon Children's Access to Healthcare Survey (CAHS). Details of the CAHS methodology and findings are reported elsewhere [13–15]. From the original 2,681 CAHS households, we selected a stratified, random sample of 792 potential interviewees, balanced between urban and rural locations and with different coverage types/patterns. Two weeks prior to contacting

these families by telephone, we mailed an informational letter to their home address. Among those families reached by phone, we had only three families refuse to participate due to a lack of time. Interviews were scheduled and conducted as we got in touch with potential participants and ceased at 53 interviews because we found theoretical saturation had been reached [16–18].

Interviews—Interviews were conducted between July 2008 and December 2010. Interviews were held at participants' homes or in a public place of their choice. Prior to each interview, the interviewer reviewed consent documents with the participant. Participants were given a \$25 superstore gift card at the end of the interview. Interviews lasted 60–90 min and were digitally recorded; all recordings were subsequently transcribed verbatim and re-read by the interviewer for accuracy. Spanish interviews were conducted by a Spanish-speaking interviewer, recorded and later transcribed into English by a certified medical transcriptionist and re-read by the interviewer for accuracy.

Four research assistants trained in interviewing techniques conducted in-person interviews using a semi-structured guide. Based on conceptual models [19–23], openended questions explored participants' perceptions of CHIP policies, barriers to and facilitators of children's coverage, and parents' overall experiences with obtaining health care services for their children. Specific questions about availability, accessibility, affordability and acceptability of health care were included in the interviews. We asked parents if their children were insured and if they were able to get necessary health care services for their children. Other questions dealt with general thoughts on health care policies and current reform efforts. For example, we asked for perspectives on problems with the health care system today and how they thought the current changes in health policy would impact their family. Interviewers asked questions in the same sequence and used inductive probing on responses where they felt additional information was needed.

Data Analysis—Our five-person analysis team, all trained in qualitative methodologies, allowed for multidisciplinary perspectives and discussion of assumptions or potential biases. After each team member read all transcripts, we discussed themes using an iterative process to create a codebook [24]. We conducted a series of meetings to allow additional themes and subthemes to surface. The team examined the data and reflected on our thoughts until definitive patterns emerged [16]. Once consensus was reached, MAXQDA software, version 10.0 (Udo Kuckartz, Berlin), was used to conduct line-by-line coding of each transcript. Line-by-line coding was done on five interviews by two team members independently; the remaining transcripts were coded by one individual and reviewed by the second team member for agreement. Any disagreements were discussed between the two team members and consensus was reached for all final codes. The qualitative study protocol was reviewed and approved by the Institutional Review Board at our academic health center (IRB# 1717).

Quantitative Phase: Analysis of National 1998–2009 MEPS-HC Data

Qualitative findings about state-level gains in children's coverage and losses in parents' coverage guided this quantitative assessment of national trends in health insurance coverage for children and their parents.

Data Source and Study Population—We used data from the MEPS-HC [25]. We selected a timeframe from 1998 to 2009, which spans the period between the original passage of the CHIP legislation and the passage of the CHIPRA. Briefly, MEPS-HC respondents are interviewed five times over a two-year period, with an overlapping panel design; annual public use files contain data from a single year for two consecutive panels. Each year of data constitutes a nationally representative sample. Details about the MEPS-HC are available elsewhere [26].

This analysis was limited to children aged 0–17 years, with responses to at least one year of the MEPS-HC survey ($n = 107,685$). Using a child as the unit of analysis, we linked each child with parent(s) in the same household. We excluded children for whom no identifiable parent records could be linked ($n = 3,424$) resulting in a sample size of 104,261 children, weighted to represent a yearly average of approximately 71 million children in the civilian, non-institutionalized US population. In addition, we examined parents of the included children ($n = 90,214$).

Constructing Health Insurance Type Variables—We constructed variables representing full-year health insurance status using monthly coverage variables available in the public use files. We created the following three categories: (1) insured all year; (2) insured part year; and (3) uninsured all year. We then further divided insurance categories by *type*: “any private” (person had only private insurance or a combination of public and private), and “only public” (person had public insurance only). We based household income stratifications on established MEPS-HC categories [25].

Analysis—We examined the frequency distribution for full-year child and parent insurance coverage status and type, stratified by income. We assessed differences in frequency distributions using SUDAAN version 10.0.1 software (Research Triangle Institute, Research Triangle Park, NC). We used sampling stratification variables and weights to account for the complex sample design of the survey.

We used Joinpoint Regression to determine if and when significant changes in health insurance coverage trends (linear slope) occurred from 1 year to the next (Joinpoint Regression Software Version 3.5.1, Statistical Research and Applications Branch, National Cancer Institute). The null hypotheses in this analysis were no changes in trend, and the alternative hypotheses were statistically significant increases or decreases in the prevalence of a specified coverage pattern. The minimum number of joinpoints allowed was zero, indicating a constant, linear slope. The maximum number of joinpoints was set at two, due to the limited number of time points being analyzed. Joinpoints had to be at least three data points from the start (1998) or end (2009) of the total time segment. The regression program selected the models with the best fit, and an annual percent change (APC) was calculated for each joinpoint segment. Some segments changed direction and/ or slope; thus, an average annual percent change (AAPC) was also calculated. Details on the methods of Joinpoint Regression can be found elsewhere [27, 28]. We looked at trends in the overall population, and also stratified them by family income level. A P value of <0.05 was considered statistically significant when assessing changes in slope. The quantitative study protocol was deemed exempt by our Institutional Review Board as data are publically available.

Results

Qualitative Analysis Results

Three main themes emerged from our interviews: (1) parents believed having health insurance for their children was extremely important; (2) parents reported increased access to public health insurance coverage for their children and were grateful for the CHIP; and (3) parents were losing coverage, and this loss of coverage led to negative consequences for the family. The third theme from this qualitative analysis informed the subsequent quantitative analyses; therefore, we only report the details, including subthemes, of the third theme here.

When asked about experiences with their child's health insurance coverage, many parents spoke about their struggles obtaining and maintaining coverage for themselves. About half of parents reported they were covered by health insurance at the time of the interview, whereas most reported their children were covered. Parents described losing health insurance coverage sponsored by the state of Oregon [Oregon Health Plan (OHP)] for a variety of reasons including changes in OHP rules and regulations. Parents were most concerned about changing policies that made it more difficult to obtain and maintain OHP state-sponsored insurance coverage, including the following specifics: a rule enacted in 2003 that required a six month waiting period to get coverage again once it lapsed, the closure to most adults in 2004, and stricter income requirements making fewer adults eligible. Others spoke about difficulties maintaining private coverage due to unaffordable costs and frequent job changes. In addition to discussing how getting coverage for themselves was more difficult than obtaining coverage for their children, parents also spoke about the frustration and anxiety they experienced when trying to take care of themselves when uninsured. Specifically, they described how a lack of insurance for parents led to delayed care and the inability to stay healthy, which interfered with their ability to provide for their children. Many parents made reference to how a parent's serious illness could negatively impact the family. For example, a sick parent would not be able to work and therefore not have enough income to pay for rent, utilities, or food. Interviewees described how parental illness also contributed to an inability to spend time with their children pursuing leisure activities. See Table 1 for examples demonstrating this major theme.

Quantitative Analysis Results

US Family Health Insurance Coverage Trends, 1998–2009—Our quantitative findings confirmed what the interview participants reported—although US children have gained public coverage over the past several years, parental coverage rates have dropped. Specifically, the percentage of US children who were uninsured all year decreased from 9.6 % in 1998 to 6.1 % in 2009; AAPC -3.1 % (95 % confidence interval [CI] from -5.1 to -1.0) (Table 2, Fig. 1). Conversely, the percentage of parents uninsured all year rose from 13.6 % in 1998 to 17.1 % in 2009; AAPC 2.7 % (95 % CI 1.8 – 3.7). The percentage of children insured all year increased; the percentage of parents insured all year decreased with a slope mirroring the increases for children.

From 1998 to 2009, shifts in coverage trends were most drastic for low-income families (Table 3, Fig. 1). The rates of low-income children uninsured all year fell from 14.2 to 7.1 %; APC -5.7 % (95 % CI -8.4 to -3.0). For low-income parents, uninsurance rates increased from 26.8 to 34.2 %; APC 2.1 % (95 % CI 1.4–2.9).

Changes in Family Health Insurance Type for Low-Income Families, 1998–2009—Between 1998 and 2009, the percentage of low-income children with private insurance all year decreased (31.5–24.2 %; AAPC -3.8, 95 % CI from -5.0 to -2.5); the percentage with public insurance all year increased -54.0%; AAPC 4.3, 95 % CI 2.7–6.0) (Table 4, Fig. 2). The percentage of low-income parents with private coverage all year also decreased from 36.2 to 28.7 %; AAPC -2.7, 95 % CI from -3.5 to -1.8, which corresponded with an increasing percentage of parents who were uninsured all year (26.8–34.2%; AAPC 2.1, 95 % CI 1.4–2.9).

Discussion

We used qualitative results to guide quantitative analyses of national data and found interview themes from the state of Oregon matched national data results. As children experienced health insurance gains during the first decade of the CHIP, families concurrently faced challenges to maintain coverage for parents. The declining percentage of parents insured all year mirrored the rise in children's coverage rates. Similarly, as the percentage of uninsured children decreased, the percentage of uninsured parents increased, growing at a rate of 2.7 % per year. Low-income children experienced the most significant coverage gains: higher rates of being insured all year and lower rates of being uninsured all year. Despite these gains, they still lagged behind middle- and high-income children. The percentage of low-income families with private insurance decreased, coinciding with an increase in the percentage of low-income children with public insurance. In our interviews, families described losing private coverage for the family and obtaining public coverage for their children, leaving parents uninsured. Similar scenarios likely happened for some middle-income families as well. Patterns of coverage for high-income families remained the most stable over time.

We learned from the qualitative interviews that one of the leading explanations for these changes in family coverage patterns for low- and middle-income families is the unaffordable cost of private health insurance. As families who have historically relied on private coverage face unaffordable costs [29], they must look elsewhere for coverage [30, 31]. During the years in which the US experienced a severe economic recession (2007–2009), health insurance rates for adults were majorly impacted [32, 33]. Loss of employment and changes from full-time to part-time employment caused a reduction in employer-sponsored health insurance options and an increase in uninsurance rates for up to nine million adults [34, 35]. While CHIP expansions helped low- and middle-income children obtain coverage, state cost-containment policies limited public insurance opportunities for adults [36].

Our findings confirm and contribute to results of previous studies. Shortly after states implemented their CHIP programs, rates of uninsured children in the US dropped significantly [37–39]. However, a recent study reported fewer coverage gains in later years

[12]. Confirming this pattern, we found significant gains of 6.6 % (95 % CI 4.4–8.9) annually for low-income children with all year public insurance between 1998 and 2005. From 2005 to 2009, rates of increase leveled off showing a non-significant gain of only 0.3 % yearly (95 % CI from -3.4 to 4.2).

Implications for Children and Families

Despite improvements in children's coverage rates, this study highlights increasing rates of parental insurance loss. Oregon parents reported that their own ill health prevented them from taking the best possible care of their children. Some parents raised concerns about how their own catastrophic illness could result in "financial ruin," leaving them unable to provide for their children. Others reported not being able to participate in activities with their children due to sickness and a lack of good health care. Previous studies have shown that insured children with uninsured parents have higher odds of experiencing health insurance coverage gaps and unmet health care needs, as compared to insured children with insured parents [15, 40–44]. One study found that, as compared to parents with continuous coverage, parents with the fewest months of coverage had the highest odds of having uninsured children [45]. The erosion of US parents' coverage could lead to an increase in unmet health care needs for both parents and their children. Lack of coverage for parents could have other impacts on children that are not yet known and future studies of this phenomenon could bring additional consequences to light.

Policy Implications

This research is timely and relevant to recent health insurance policy changes. CHIP was reauthorized in 2009 to expand health insurance coverage for up to 4.1 million additional children by 2013 [6]. More children (and potentially more parents) will have access to coverage after full implementation of the PPACA. For example, by 2014, the PPACA will expand Medicaid to cover all Americans earning less than 133 % of the federal poverty level (FPL), create state health insurance exchanges, and implement tax credits to help middle class families buy insurance [5, 7]. Predictions indicate that full implementation of these provisions could drop uninsurance rates by 50–70 % for adults and 40 % for children [46, 47]. However, the Supreme Court has ruled that state participation in Medicaid expansions is optional, so public coverage options for parents may remain extremely limited in some states [48–50]. Low- and middle-income parents may be able to obtain coverage through an insurance exchange, but only if coverage options are affordable; without Medicaid or affordable private coverage options, disparities in adult health insurance coverage may continue [48–50]. In addition to high premiums, families often face the additional financial burden of cost-sharing, including deductibles and co-payments [31].

With recent policy changes, US family health insurance coverage patterns will need to be closely monitored. For example, if we focus only on children's gains, we may easily miss the impact of parental losses on children and families. Findings from this mixed-methods study highlight an alarming downward trend in health insurance coverage for US parents. Importantly, our study findings provide baseline and historical comparisons for future studies, while the methods outlined provide a model for future evaluations.

Limitations

We conducted the qualitative interviews in one state in both English and Spanish; however, the experiences described may represent this population only. By design, this qualitative study was not intended to obtain widely generalizable results but, rather, was intended to provide a rich, in-depth picture of individual parent's experiences accessing health insurance and care for their children. The interviews were conducted over a two year period and the national dataset included 12 years of data. Thus, the two datasets were not directly comparable, but they were not meant to be. The in-depth narratives informed the design of quantitative analyses of the national dataset. We were limited by the existing MEPS-HC data, and response bias is inherent in self-reported data. We measured insurance status changes over time, but MEPS data do not provide explanations about why these changes have occurred. The qualitative findings helped to better understand and explain the quantitative trends. Finally, national data does not account for state-level differences in policies which have expanded and contracted public health insurance to the uninsured.

Conclusions

Between 1998 through 2009, as US children gained insurance coverage, parents lost coverage. This pattern of change was most significant for low-income families. Children are only part of the family equation. Studies of insurance coverage must be broadened beyond children's coverage to get a more complete picture of how policies are affecting children and their families. Parental coverage loss negatively impacts children's health. These findings suggest the need for extensive policy interventions to improve access to health insurance for children *and* their parents.

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Fig. 1. Child and parent full-year health insurance status 1998–2009, by family. *Source data* medical expenditure panel survey-household component, 1998–2009 APC annual percent change

Fig. 2. Child and parent full-year health insurance type among the low income. *Source data* medical expenditure panel survey-household component, 1998–2009 APC annual percent change

Table 1

Quotations demonstrating qualitative theme regarding how US parents are losing coverage and how families are impacted by parents being uninsured

Parents are having difficulty maintaining coverage

"I think they kicked me off [the OHP] because they changed the laws and were kicking people off of it because I think they had too many people on it." (22999)

"When we tried to go back on OHP because we had lost our jobs, they didn't accept us anymore...there's no openings for adults on OHP unless you're pregnant. So, that's harsh, but it's reality, I guess the way the economy is...This big picture all these little puzzle pieces fit into, but somewhere along the way they have no room for the adults that don't have health coverage, which is pretty bad because those people are just out there with no net if they get injured, or they get sick." (22660)

"...they cut me off [the OHP]...they said 'once you're off the plan you can't come back on'...It was like: 'oh well, okay, now what do we do?...I'm sick and can't go to work.' It was really disappointing that we couldn't get the coverage we definitely needed." (22854)

"I was working for the movie theater and McDonald's. Neither of them being full time... neither offered insurance, but OHP was like: 'you get coverage through your employer, use that,' so they dropped me." (559)

"The health coverage my husband has offered to him through his job is so astronomically expensive, it's almost like, 'holy crap, why did you sign up for that?' because it's half of his paycheck, so I'm sitting here thinking 'how are we going to make it? holy cow, that's a lot for health coverage, \$600 a month for 2 people.'" (22660)

"Every time my husband would lose his job or switch jobs, there is always that waiting period when you don't have benefits... You know we get the COBRA information and it says, 'Oh you can pay \$875 per month for coverage' and it's like: 'we have no income so how are we supposed to pay?' So, COBRA seems kind of useless to most of us." (21424)

"There were times we'd have to pick, let's see, the first of the month, do we pay the insurance or do we pay the water, sewer and electricity, so there was a couple times we got behind because we had to make that decision. If you have to choose between water and electricity, and insurance you're not using on a daily basis, you have to pick your utilities. We doubled up the next month, and then after 2 times in a row we had to pay \$550...we just said we're cutting our throats, we can't afford to do this, so we just stopped the insurance. I think if health care were cheaper, more people would have it...the accessibility is the price." (22065)

"It's scary because, at any time something could go wrong, living paycheck to paycheck, ...It's a very scary thought that if something happens, how am I going to afford it, what cost is it going to take, other than just the financial cost... It is almost deemed a luxury nowadays to have health insurance, which is a really sad fact. You know that would be a huge relief off of my mind if I could just get that—the minimal, basic care." (1098)

The family is affected when parents are uninsured

"I've been on the floor sick. At one point I had an abscess on my arm here that was infected. Tough luck. I could have used antibiotics. I went to a natural care clinic who I gave \$10 and they put a poultice on it and lanced it. 'Bite on this stick while I do it.' It wasn't good. Clearly, I wouldn't have been through that if I could have avoided it. There have been times I have been really ill and not able to do anything about it." (21888)

"If I get pneumonia, I'm not only out of work which means no income but I'm going to have the additional cost of being in the hospital, trying to get myself taken care of, and it's going to put me in a position where I'm going to lose my house." (21361)

"I haven't been to my yearly doctor visit for years. I won't make an appointment unless I know we can pay for it. I don't know how many times I ran around in the horse pasture and cut my feet and never had a current tetanus shot." (20889)

"...when parents get cut off [the OHP], it makes it hard on kids, too, because then the parents get all stressed out." (22999)

"What kind of panics us about the health insurance is lately there is nothing really disastrous that has happened to the kids, [but what if] something happened to me or my husband? My neighbor fell off a scaffold backwards...they almost lost everything. He had health insurance through his company. When you're hearing he was covered, that one scares me. What's the point when you have to sell everything you own just to pay for the hospital; that scares me." (21213)

"You won't have energy for anything else without your health." (36079)

"If I had had medical coverage for me, I probably would have been able to do the things that I was hoping I could do, like things, activities [with my kids]...more karate classes, or little league, things like that." (21220)

"We were always concerned about it. It was—feed your family or maybe get sick and have to go to the doctor. We just couldn't do both. It's basically providing food for your family or health care; It's outrageous. Do you choose health care or do you choose to pay your bills?" (20859)

Table 2

Prevalence of and annual percent change in child and parent health insurance coverage status, 1998–2009

Child and parent health insurance status	1998 (%)	2009 (%)	Years	AAPC	95 % CI
Insured all year					
Children [#]	78.2	83.3	1998–2009	0.4 [*]	0.1 to 0.7
Parents [^]	74.5	71.8	1998–2009	−0.4 [*]	−0.6 to −0.2
Insured part year					
Children	12.2	10.6	1998–2009	−1.1	−2.3 to 0.1
Parents	12.0	11.1	1998–2009	−0.6	−1.4 to 0.2
Uninsured all year					
Children	9.6	6.1	1998–2009	−3.1 [*]	−5.1 to −1.0
Parents	13.6	17.1	1998–2009	2.7 [*]	1.8 to 3.7

Data source medical expenditure panel survey—household component*APC* annual percent change, *AAPC* average annual percent change, *CI* confidence interval^{*} AAPC is significantly different from zero ($P < 0.05$)[#] Includes those aged 0–17 with at least one parent living in the household (n = 104,261)[^] Includes those identified as parents of children aged 0–17 (n = 90,214)

Table 3

Prevalence of and annual percent change in child and parent health insurance coverage status, 1998-2009, by family income

Child and parent health insurance type by family income	1998 (%)	2009 (%)	AAPC	95 % CI	Years	APC	95 % CI
<i>Low income</i>							
Insured all year							
Children [#]	67.0	78.2	1.3 [*]	0.6 to 1.9	1998–2009	1.3 [*]	0.6 to 1.9
Parents [^]	53.6	49.1	−0.8 [*]	−1.3 to −0.3	1998–2009	−0.8 [*]	−1.3 to −0.3
Insured part year							
Children	18.8	14.7	−2.3 [*]	−3.4 to −1.2	1998–2009	−2.3 [*]	−3.4 to −1.2
Parents	19.7	16.7	−1.3 [*]	−2.3 to −0.2	1998–2009	−1.3 [*]	−2.3 to −0.2
Uninsured all year							
Children	14.2	7.1	−5.7 [*]	−8.4 to −3.0	1998–2009	−5.7 [*]	−8.4 to −3.0
Parents	26.8	34.2	2.1 [*]	1.4 to 2.9	1998–2009	2.1 [*]	1.4 to 2.9
<i>Middle Income</i>							
Insured all year							
Children	81.7	83.1	0.0	−0.4 to 0.4	1998–2009	0.0	−0.4 to 0.4
Parents	78.4	77.8	−0.2	−1.5 to 1.2	1998–2004 ^{**}	−0.1	−1.0 to 0.9
					2004–2007 ^{**}	−2.2	−7.6 to 3.6
					2007–2009 ^{**}	2.7	−3.3 to 9.1
Insured part year							
Children	9.7	10.4	0.6	−1.5 to 2.7	1998–2009	0.6	−1.5 to 2.7
Parents	11.2	11.2	0.1	−1.2 to 1.4	1998–2009	0.1	−1.2 to 1.4
Uninsured all year							
Children	8.5	6.5	−1.1	−3.3 to 1.2	1998–2009	−1.1	−3.3 to 1.2
Parents	10.5	11.0	3.1 [*]	0.6 to 5.7	1998–2009	3.1 [*]	0.6 to 5.7
<i>High Income</i>							
Insured all year							
Children	90.0	91.3	0.0	−0.2 to 0.1	1998–2009	0.0	−0.2 to 0.1
Parents	90.1	90.6	0.1	−0.1 to 0.3	1998–2009	0.1	−0.1 to 0.3
Insured part year							
Children	5.7	4.5	−0.3	−2.8 to 2.3	1998–2009	−0.3	−2.8 to 2.3
Parents	5.6	4.9	−1.6 [*]	−2.8 to −0.4	1998–2009	−1.6 [*]	−2.8 to −0.4
Uninsured all year							
Children	4.3	4.2	1.3	−0.6 to 3.2	1998–2009	1.3	−0.6 to 3.2
Parents	4.4	4.5	−0.1	−3.0 to 2.8	1998–2009	−0.1	−3.0 to 2.8

Data source medical expenditure panel survey—household component

Low-income = <200 %FPL (federal poverty level); Middle-income = 200 to <400 %FPL; High-income = 400 %FPL; the FPL was \$16,450 in 1998 and \$22,050 in 2009 [51, 52]

APC annual percent change, *AAPC* average annual percent change, *CI* confidence interval

* AAPC is significantly different from zero ($P = 0.05$)

** The slope of this trend line changed directions from 1998 to 2009

Includes those aged 0–17 with at least one parent living in the household ($n = 104,261$)

^ Includes those identified as parents of children aged 0–17 ($n = 90,214$)

Table 4

Prevalence of and annual percent change in low-income child and parent health insurance type, 1998–2009

Child and parent health insurance type	1998 (%)	2009 (%)	AAPC	95 % CI	Years	APC	95 % CI
Low income							
All year, any private							
Children [#]	31.5	24.2	−3.8 [*]	−5.0 to −2.5	1998–2009	−3.8 [*]	−5.0 to −2.5
Parents [^]	36.2	28.7	−2.7 [*]	−3.5 to −1.8	1998–2009	−2.7 [*]	−3.5 to −1.8
All year, public only							
Children	35.5	54.0	4.3 [*]	2.7 to 6.0	1998–2005 ^{**}	6.6 [*]	4.4 to 8.9
					2005–2009 ^{**}	0.3	−3.4 to 4.2
Parents	17.4	20.4	1.5	−1.0 to 4.1	1998–2000 ^{**}	−6.7	−17.8 to 6.0
					2000–2003 ^{**}	8.9	−1.1 to 19.9
					2003–2009 ^{**}	0.8	−0.7 to 2.4
Part year, any private							
Children	7.4	3.8	−7.4 [*]	−9.7 to −5.1	1998–2009	−7.4 [*]	−9.7 to −5.1
Parents	11.0	7.9	−3.8 [*]	−5.4 to −2.2	1998–2009	−3.8 [*]	−5.4 to −2.2
Part year, public only							
Children	11.4	10.9	0.1	−1.1 to 1.3	1998–2009	0.1	−1.1 to 1.3
Parents	8.7	8.9	0.9	−0.5 to 2.4	1998–2006 ^{**}	3.6 [*]	2.2 to 4.9
					2006–2009 ^{**}	−5.8 [*]	−10.6 to −0.8
Uninsured all year							
Children	14.2	7.1	−5.7 [*]	−8.4 to −3.0	1998–2009	−5.7 [*]	−8.4 to −3.0
Parents	26.8	34.2	2.1 [*]	1.4 to 2.9	1998–2009	2.1 [*]	1.4 to 2.9

Data source medical expenditure panel survey—household component

Low-income =<200 %FPL (federal poverty level); the FPL was \$16,450 in 1998 and \$22,050 in 2009 [51, 52]

APC annual percent change, AAPC average annual percent change, CI confidence interval

^{*} AAPC is significantly different from zero ($P < 0.05$)^{**} The slope of this trend line changed directions from 1998 to 2009[#] Includes those aged 0–17 with at least one parent living in the household (n = 104,261)[^] Includes those identified as parents of children aged 0–17 (n = 90,214)