Children's Receipt of Health Care Services and Family Health Insurance Patterns

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ABSTRACT

PURPOSE Insured children in the United States have better access to health care services; less is known about how parental coverage affects children's access to care. We examined the association between parent-child health insurance coverage patterns and children's access to health care and preventive counseling services.

METHODS We conducted secondary analyses of nationally representative, cross-sectional, pooled 2002-2006 data from children (n = 43,509), aged 2 to 17 years, in households responding to the Medical Expenditure Panel Survey (MEPS). We assessed 9 outcome measures pertaining to children's unmet health care and preventive counseling needs.

RESULTS Cross-sectionally, among US children (aged 2 to 17 years) living with at least 1 parent, 73.6% were insured with insured parents, 8.0% were uninsured with uninsured parents, and the remaining 18.4% had discordant family insurance coverage patterns. In multivariable analyses, insured children with uninsured parents had higher odds of an insurance coverage gap (odds ratio [OR] = 2.45; 95% confidence interval [CI], 2.02-2.97), no usual source of care (OR = 1.31; 95% CI, 1.10-1.56), unmet health care needs (OR = 1.11; 95% CI, 1.01-1.22), and having never received at least 1 preventive counseling service (OR = 1.20; 95% CI, 1.04-1.39) when compared with insured children with insured parents. Insured children with mixed parental insurance coverage had similar vulnerabilities.

CONCLUSIONS Uninsured children had the highest rates of unmet needs overall, with fewer differences based on parental insurance status. For insured children, having uninsured parents was associated with higher odds of going without necessary services when compared with having insured parents.

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INTRODUCTION

The importance of health insurance is well established.[1] Children with stable coverage have more consistent access to health care services, which contributes to better health outcomes.[1-10] In part because of this mounting body of evidence, Medicaid and the State Children's Health Insurance Program (SCHIP) have expanded health insurance coverage to millions more children throughout the United States, and are now insuring approximately 40% of US children.[11] This percentage is likely to increase further as the cost of private insurance outpaces the earnings of American families.[12,13] In addition, as concordant private insurance plans to insure the entire household become less accessible, families will continue to shift toward child-only, parent-only, or a combination of discordant types of coverage (most commonly insured children with uninsured parents).[11,14-17]

Insured children have better access to care; however, less is known about the independent and combined effects of parental lack of coverage on children's care. Further, the associations between children's coverage and access to care have been documented without accounting for parental coverage. Only a few studies have specifically aimed to measure how parental insurance status affects not only a child's insurance but also a child's access to

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health care services.[18-22] Importantly, these studies were limited to 1 state,[18,22] included only low-income populations,[19,21] were not large enough to measure the effect of parent-only coverage,[19,21] and did not account for discordant patterns between 2 parents.[20] With major shifts in patterns of family coverage in the past decade alone,[14] it is crucial to better understand the associations between different family coverage patterns and children's access to care. Do all insured children have the same access to services, or does it matter that a parent lacks coverage? Do uninsured children with insured parents have better access than if no one in the household has insurance? After controlling for the insurance status of both children and parents, what other characteristics are associated with a child's unmet health care needs? It is well established that insured children have better access to care; thus, our central study hypothesis was that parental insurance would also be independently associated with higher rates of children's unmet health care needs. Thus, we aimed to compare associations between different family insurance patterns and children's access to health care and preventive counseling services.

METHODS

Data

This study was a secondary analysis of data from the Medical Expenditure Panel Survey-Household Component (MEPS-HC).[23] The MEPS-HC collects data from a subsample of households from the National Health Interview Survey and utilizes a stratified and clustered random sample with weights that produce nationally representative estimates for the civilian, noninstitutionalized US population.[24-26] Respondents to the MEPS-HC are interviewed 5 times over a 2-year period.

We combined data from 2002 through 2006 because these 5 years have a common variance structure necessary to ensure compatibility and comparability of our variables within the complex sample design of the MEPS, and the most recent data available are from 2006. Although MEPS data are reported in yearly files, the overlapping panel design facilitates the combination of data from 2 overlapping panels for each year (eg, data for 2002 combines the overlapping panels of 2001-2002 and 2002-2003). Whereas many respondents reported in 2 consecutive years, each year of data constitutes a nationally representative sample, and pooling the data produces average annual estimates. We included all children between the ages of 2 and 17 years with positive full-year weights who had at least 1 parent residing in the same household, weighted to a US population of nearly 64 million children. Only children between the ages of 2 and 17 years were included in MEPS-HC preventive counseling questions.

We linked each child to 1 or both parents and then constructed a child-parent insurance variable, linking children with a single parent in the household to 1 parent identifier (n = 13,945) and those with 2 parents in the household to 2 parent identifiers (n = 29,637). This linkage is possible for biological parents, adopted parents, and step-parents; MEPS does not include similar variables for linking foster parents or nonparent guardians.[27] Among these 43,582 children, we could not ascertain the cross-sectional child or parental insurance status of 73 children, thus our sample size was 43,509. This number also did not include the 1,737 children with no linked parent identifier (thus our total exclusions were 1,810). Of note, the 1,737 nonlinked children had a higher uninsurance rate overall—16.8% vs 11.6% uninsured among the 43,509 children in the sample; however, we could not obtain parent information for this excluded group. Those excluded were also disproportionately poor, nonwhite, non-Hispanic, older, from the South, and more likely to report not being in excellent health.

Variables and Analyses

Outcome Variables

We constructed a total of 9 outcome variables from MEPS items that were most relevant to the entire age span (2 to 17 years) and those preventive counseling items that could be determined to have never been performed: child insurance coverage gap during the year, no usual source of care, no doctor visits in the past year, and less than yearly dental visits; and 5 composite variables for reports of 1 or more of 16 unmet health care needs in the last 12 months, missing 1 or more 4 preventive counseling services in past 2 years, missing 4 of 4 preventive counseling services in past 2 years, never having received 1 or more 4 preventive counseling services, and never having received all 4 of 4 preventive counseling services.

Primary Independent Variable

Among children living with at least 1 parent, we assessed the cross-sectional insurance status of the child and parent(s) as reported on December 31st of the given year, creating 6 mutually exclusive family insurance patterns. For the children with only 1 linked parent, the status of parents applies to the single parent with insurance information available. The groups included (1) child and parents insured (n = 27,804); (2) child insured, 1 parent insured and 1 parent uninsured (n = 2,934); (3) child insured, parents uninsured (n = 6,574); (4) child uninsured, parents insured (n = 835); (5) child uninsured, 1 parent insured and 1 parent uninsured (n = 863); (6) child and parents uninsured (n = 4,499).

Covariables and Analyses

We used the conceptual model designed by Aday and Andersen to guide identification of covariables that might influence children's access to care.[28] This process was further informed by MEPS-HC variables previously shown to be associated with discordant family insurance patterns.[15] We used 2-tailed χ^2 analyses to test bivariate associations. Eight independent variables were significantly associated with at least 1 outcome (P <.10): household income, child's age, child's race/ethnicity, family composition, parental education, parental employment, region of residence, and child's health status. All 8 covariates were included in logistic regression models to assess the adjusted associations between family coverage patterns and child's receipt of health care and preventive counseling services.

We used SUDAAN Version 10.0 (Research Triangle Institute, Research Triangle Park, North Carolina) for all statistical analyses to account for the complex sampling design of the MEPS; α level was set at .05 for all multivariable analyses a priori. This study protocol was reviewed by the Oregon Health and Science University Institutional Review Board, which deemed the study exempt from review because data are publicly available.

RESULTS

Among US children aged 2 to 17 years and living with at least 1 parent, 73.6% were insured with sole parent or both parents insured, and 8.0% were uninsured with uninsured parents. The remaining 18.4% had discordant patterns of coverage. In comparison, approximately 82.9% of the US population was insured, and 17.1%, uninsured at the same point in time (Table 1).

In multivariate analyses, the odds of a child experiencing unmet health care and preventive counseling needs increased as family health insurance patterns deviated further from the concordant pattern of both child and parents insured (Tables 2 and 3). Overall, uninsured children, regardless of parental insurance status, had the highest odds of unmet health care and preventive needs when compared with the reference group of insured children with insured parents. There was, however, also a significant difference among insured children based on their parental coverage in

Table 1. Cross-Sectional Family Health Insurance Coverage Patterns for US Children (Aged 2-17 Years) Living With at Least 1 Parent, 2002-2006

Coverage Patterns	2002-2006 Unweighted N[a]	2002-2006 Yearly Average Weighted to US Population[b] (in millions)	2002-2006 Weighted %[b] (95% CI)
Cross-sectional family patterns at the child level (insurance status on December 31)			
Child insured, parents insured[c]	27,804	46.9	73.6 (72.4-74.7)
Child insured, 1 parent insured,1 parent uninsured[d]	2,934	3.1	4.8 (4.4-5.2)
Child insured, parents uninsured[e]	6,574	6.4	10.0 (9.4-10.7)
Child uninsured, parents insured[c]	835	1.2	1.9 (1.7-2.2)
Child uninsured, 1 parent insured,1 parent uninsured[d]	863	1.1	1.7 (1.5-2.0)
Child uninsured, parents uninsured[e]	4,499	5.1	8.0 (7.4-8.6)
Total	43,509	63.8	100
Cross-sectional national statistics for US population (insurance status on December 31)			
Insured	131,819	241.3	82.9 (82.4-83.5)
Uninsured	34,542	49.6	17.1 (16.5-17.7)
Total	166,361	290.9	100

Source: 2002-2006 Medical Expenditure Panel Survey (MEPS), Household Component (HC), Agency for Healthcare Research and Quality, Rockville, Maryland.

CI = confidence interval.

[a] Unweighted counts at the child level represent the total number of children, aged 2-17 years, from MEPS respondent households with a positive person weight who could be linked to at least 1 parent within the household. Total counts do not include the 1,737 children with no parent in the household. An additional 73 children were excluded because self or parental insurance coverage status could not be ascertained on December 31 of the given year (total exclusions = 1,810). Unweighted national statistics exclude the 1,372 individuals for whom insurance coverage status could not be ascertained on December 31 of the given year.

[b] To derive the yearly population estimates, each record from the MEPS was weighted according to person-level weights provided by the data-collection agency for use in pooling multiple years.

[c] In 2-parent families, both parents had insurance coverage on December 31 of the given year; in single-parent families, the sole parent had insurance coverage on December 31 of the given year.

[d] In 2-parent families, 1 parent had coverage and the other parent did not have insurance coverage on December 31 of the given year.

[e] In 2-parent families, both parents did not have insurance coverage on December 31 of the given year; in single-parent families, the sole parent did not have insurance coverage on December 31 of the given year.

Table 2. Multivariate Associations Between Child and Family Characteristics and Children's Access to Health Care (2002-2006)

Demographic and Other Characteristics	Child Coverage Gap[a] OR (95% CI)	No Usual Source of Care OR (95% CI)	No Doctor Visit in Past 12 Months OR (95% CI)	Child Visits Dentist Less Than 1/yr OR (95% CI)	Any Unmet Health Care Need[b] OR (95% CI)
Family insurance patterns					
Child insured, parents insured[c] (reference group)	1.00	1.00	1.00	1.00	1.00
Child insured, parents 1 insured, 1 uninsured[d]	2.26 (1.79-2.85)	1.34 (0.99-1.81)	1.18 (1.01-1.37)	1.39 (1.16-1.66)	1.09 (0.96-1.23)
Child insured, parents uninsured[e]	2.45 (2.02-2.97)	1.31 (1.10-1.56)	1.10 (1.00-1.22)	1.13 (0.97-1.30)	1.11 (1.01-1.22)
Child uninsured, parents insured[c]	NA	1.87 (1.46-2.40)	1.45 (1.16-1.79)	1.80 (1.39-2.32)	1.29 (1.05-1.59)
Child uninsured, parents 1 insured, 1 uninsured[d]	NA	2.89 (2.13-3.92)	1.68 (1.33-2.14)	2.83 (2.21-3.61)	1.49 (1.20-1.84)
Child uninsured, parents uninsured[e]	NA	4.30 (3.65-5.06)	2.17 (1.94-2.44)	2.96 (2.55-3.43)	1.93 (1.73-2.15)
Household income groups[f]					
High income (reference group)	1.00	1.00	1.00	1.00	1.00
Middle income	2.21 (1.72-2.84)	1.46 (1.21-1.76)	1.74 (1.57-1.93)	1.84 (1.62-2.09)	1.58 (1.45-1.73)
Low income	3.01 (2.32-3.90)	1.57 (1.27-1.94)	1.99 (1.74-2.27)	2.41 (2.06-2.82)	1.83 (1.65-2.04)
Near poor	3.42 (2.47-4.74)	1.77 (1.38-2.26)	2.27 (1.94-2.65)	2.39 (1.95-2.93)	1.99 (1.74-2.28)
Poor/negative	2.62 (1.96-3.50)	1.60 (1.29-1.99)	2.20 (1.93-2.51)	2.35 (1.98-2.78)	1.96 (1.75-2.20)
Child's age, years					
2-4 (reference group)	1.00	1.00	1.00	1.00	1.00
5-9	1.03 (0.90-1.17)	1.42 (1.24-1.63)	2.07 (1.85-2.31)	0.18 (0.16-0.20)	1.52 (1.40-1.66)
10-13	1.11 (0.94-1.30)	1.88 (1.61-2.19)	2.51 (2.24-2.82)	0.17 (0.15-0.19)	1.69 (1.54-1.85)
14-17	1.06 (0.91-1.24)	2.85 (2.40-3.38)	2.87 (2.55-3.22)	0.27 (0.24-0.31)	2.00 (1.82-2.20)
Child's race/ethnicity[g]					
White, non-Hispanic (reference group)	1.00	1.00	1.00	1.00	1.00
Hispanic, any race	1.32 (1.10-1.59)	1.73 (1.43-2.10)	1.37 (1.23-1.53)	1.11 (0.97-1.26)	1.10 (1.00-1.20)
Nonwhite, non-Hispanic	0.95 (0.78-1.15)	1.59 (1.32-1.93)	1.48 (1.33-1.64)	1.06 (0.95-1.18)	1.14 (1.05-1.24)
Family composition[h]					
2 parents in household (reference group)	1.00	1.00	1.00	1.00	1.00
1 parent in household	1.23 (1.05-1.44)	1.09 (0.93-1.27)	0.95 (0.88-1.03)	1.16 (1.03-1.26)	1.06 (0.98-1.14)
At least 1 parent completed high school					
Yes (reference group)	1.00	1.00	1.00	1.00	1.00
No	1.07 (0.91-1.26)	1.40 (1.23-1.60)	1.39 (1.26-1.54)	1.42 (1.25-1.60)	1.17 (1.06-1.29)
At least 1 parent employed					
Not currently employed (reference group)	1.00	1.00	1.00	1.00	1.00
Employed/self-employed	0.83 (0.68-1.02)	0.86 (0.73-1.01)	1.26 (1.12-1.42)	1.04 (0.89-1.22)	1.12 (1.02-1.24)
Geographic residence					
Northeast (reference group)	1.00	1.00	1.00	1.00	1.00
West	1.46 (1.13-1.88)	2.93 (2.19-3.91)	2.29 (1.92-2.72)	1.39 (1.17-1.66)	1.97 (1.73-2.25)
South	1.44 (1.13-1.83)	2.89 (2.22-3.77)	1.70 (1.44-2.01)	1.42 (1.22-1.66)	1.58 (1.40-1.78)
Midwest	1.16 (0.90-1.49)	1.93 (1.43-2.61)	1.69 (1.41-2.03)	1.24 (1.04-1.48)	1.46 (1.28-1.67)
Child health status					
Excellent (reference group)	1.00	1.00	1.00	1.00	1.00
Not excellent	0.99 (0.89-1.11)	0.93 (0.83-1.04)	0.71 (0.66-0.76)	1.19 (1.10-1.29)	1.10 (1.04-1.17)

Source: 2002-2006 Medical Expenditure Panel Survey (MEPS), Household Component (HC), Agency for Healthcare Research and Quality, Rockville, Maryland.

CI = confidence interval; FPL = federal poverty level; OR = odds ratio.

[a] All children uninsured on December 31 had a coverage gap, so adjusted odds ratio was reported only for the children insured on December 31 who had a coverage gap at some other point during the year.

[b] Child had at least 1 of the following 16 unmet needs in the past 12-months: did not get needed care right away, no visits to the doctor's office, problem in getting needed care, problem in getting specialty care, unable to get needed medical care, problem in not getting needed care, delayed in getting medical care, problem in getting delayed medical care, unable to get needed dental care, problem in not getting needed dental care, delayed in getting dental care, problem in getting delayed dental care, unable to get needed prescription medication, problem in not getting prescription medication, delayed prescription care, problem in delay of getting prescription medication.

[c] In 2-parent families, both parents had insurance coverage on December 31 of the given year; in single-parent families, the sole parent had insurance coverage on December 31 of the given year.

[d] In 2-parent families, 1 parent had coverage and the other parent did not have insurance coverage on December 31 of the given year.

[e] In 2-parent families, both parents did not have insurance coverage on December 31 of the given year; in single-parent families, the sole parent did not have insurance coverage on December 31 of the given year.

[f] The household income groups were based on the MEPS-HC constructed variable that divides families into 5 income groups based on earnings as a percentage of the FPL: poor (<100% FPL); near poor (100% to <125% FPL); low income (125% to <200% FPL); middle income (200% to <400% FPL); and high income (>400% FPL). In 2006, the federal poverty level for a family of 4 was $20,000.

[g] Child's race/ethnicity was self-determined by parent respondents based on standard options provided by MEPS interviewers. One combined child race/ethnicity variable was created by combining a race variable—which included white only, black only, American Indian/Alaskan Native only, Asian only, native Hawaiian/Pacific Islander only, and multiple races—and an ethnicity variable—which included Hispanic, or not Hispanic.

[h] Family composition refers to whether the child could be linked to 1 parent or 2 parents residing in the same household (it does not account for biological relationship between parent and child or the marriage status between the 2 parents).

Table 3. Multivariate Associations Between Child and Family Characteristics and Children's Receipt of Preventive Health Counseling (2002-2006)

Demographic and Other Characteristics	Missing at Least 1 of 4 Preventive Counseling Items in Past 2 Years[a] OR (95% CI)	Missing All 4 Preventive Counseling Items In Past 2 Years[a] OR (95% CI)	Never Had At Least 1 of 4 Preventive Counseling Items[a] OR (95% CI)	Never Had All 4 Preventive Counseling Items[a] OR (95% CI)
Family insurance patterns				
Child insured, parents insured (reference group)[b]	1.00	1.00	1.00	1.00
Child insured, parents 1 insured, 1 uninsured[c]	1.26 (1.04-1.53)	1.07 (0.93-1.24)	1.33 (1.11-1.60)	1.08 (0.93-1.26)
Child insured, parents uninsured[d]	1.16 (0.99-1.36)	1.10 (0.99-1.21)	1.20 (1.04-1.39)	1.10 (1.01-1.21)
Child uninsured, parents insured[b]	1.33 (0.93-1.91)	1.40 (1.11-1.76)	1.32 (0.96-1.82)	1.38 (1.08-1.75)
Child uninsured, parents 1 insured, 1 uninsured[c]	1.33 (0.88-2.02)	1.42 (1.12-1.81)	1.41 (0.97-2.05)	1.37 (1.07-1.76)
Child uninsured, parents uninsured[d]	1.67 (1.41-1.98)	1.63 (1.45-1.84)	1.60 (1.35-1.90)	1.48 (1.31-1.67)
Household income groups[e]				
High income (reference group)	1.00	1.00	1.00	1.00
Middle income	1.29 (1.13-1.47)	1.44 (1.31-1.59)	1.23 (1.09-1.39)	1.45 (1.31-1.61)
Low income	1.25 (1.07-1.46)	1.46 (1.29-1.65)	1.32 (1.14-1.52)	1.53 (1.35-1.74)
Near poor	1.31 (1.05-1.63)	1.56 (1.32-1.84)	1.32 (1.08-1.60)	1.63 (1.39-1.92)
Poor/negative	1.13 (0.95-1.35)	1.40 (1.24-1.58)	1.15 (0.97-1.35)	1.50 (1.33-1.69)
Child's age, years				
0-4 (reference group)	1.00	1.00	1.00	1.00
5-9	0.87 (0.79-0.97)	1.59 (1.47-1.73)	0.76 (0.69-0.84)	1.43 (1.32-1.56)
10-14	1.03 (0.91-1.17)	2.02 (1.84-2.21)	0.84 (0.74-0.94)	1.75 (1.60-1.92)
15-18	1.48 (1.31-1.67)	2.53 (2.28-2.80)	1.11 (0.99-1.25)	2.03 (1.81-2.26)
Child's race/ethnicity[f]				
White, non-Hispanic (reference group)	1.00	1.00	1.00	1.00
Hispanic, any race	0.70 (0.61-0.81)	0.83 (0.75-0.92)	0.75 (0.65-0.86)	0.94 (0.85-1.04)
Nonwhite, non-Hispanic	0.95 (0.84-1.07)	0.96 (0.86-1.08)	1.05 (0.92-1.19)	1.07 (0.95-1.19)
Family composition[g]				
2 Parents in household (reference group)	1.00	1.00	1.00	1.00
1 Parent in household	1.19 (1.06-1.34)	1.01 (0.93-1.10)	1.20 (1.08-1.33)	1.00 (0.92-1.09)
At least 1 parent completed high school				
Yes (reference group)	1.00	1.00	1.00	1.00
No	1.03 (0.91-1.17)	1.20 (1.09-1.31)	1.10 (0.98-1.25)	1.22 (1.10-1.35)
At least 1 parent employed				
Not currently employed (reference group)	1.00	1.00	1.00	1.00
Employed/self-employed	1.00 (0.85-1.19)	1.10 (0.97-1.25)	1.01 (0.85-1.19)	1.10 (0.95-1.26)
Geographic residence				
Northeast (reference group)	1.00	1.00	1.00	1.00
West	1.72 (1.40-2.12)	1.84 (1.56-2.18)	1.49 (1.20-1.85)	1.55 (1.29-1.87)
South	1.93 (1.62-2.29)	1.76 (1.50-2.06)	1.75 (1.47-2.08)	1.56 (1.31-1.86)
Midwest	1.81 (1.48-2.22)	1.68 (1.41-2.00)	1.73 (1.41-2.13)	1.51 (1.25-1.83)
Child health status				
Excellent (reference group)	1.00	1.00	1.00	1.00
Not excellent	0.97 (0.89-1.06)	0.84 (0.78-0.90)	1.00 (0.92-1.10)	0.86 (0.79-0.93)

Source: 2002-2006 Medical Expenditure Panel Survey (MEPS), Household Component (HC), Agency for Healthcare Research and Quality, Rockville, Maryland.

CI = confidence interval; OR = odds ratio.

Note: To derive the yearly population estimates, each child record from the MEPS was weighted according to person-level weights provided by the data-collection agency for use in pooling multiple years.

[a] The preventive counseling services include MEPS-HC items that asked parents whether a doctor or health provider had advised their child about the importance of (1) healthy eating, (2) routine exercise, (3) use of car safety seats/booster seats/seat belts, and (4) use of a helmet while riding a tricycle/bicycle.

[b] In 2-parent families, both parents had insurance coverage on December 31 of the given year; in single-parent families, the sole parent had insurance coverage on December 31 of the given year.

[c] In 2-parent families, 1 parent had coverage and the other parent did not have insurance coverage on December 31 of the given year.

[d] In 2-parent families, both parents did not have insurance coverage on December 31 of the given year; in single-parent families, the sole parent did not have insurance coverage on December 31 of the given year.

[e] For information regarding household income groups, see footnote to Table 2.

[f] For information regarding child's race/ethnicity, see footnote to Table 2.

[g] For information regarding family composition, see footnote to Table 2.

most cases. As displayed in Table 2, insured children with uninsured parents had higher odds of an insurance coverage gap (odds ratio [OR] = 2.45; 95% confidence interval [CI], 2.02-2.97), no usual source of care (OR = 1.31; 95% CI, 1.10-1.56), and unmet health care needs (OR = 1.11; 95% CI, 1.01-1.22) when compared with insured children with insured parents. Insured children with 1 parent insured and 1 parent uninsured had higher odds of no doctor visits in the past year (OR = 1.18; 95% CI, 1.01-1.37) and fewer than 1 yearly dental visit (OR = 1.39; 95% CI, 1.16-1.66) compared with insured children with insured parents.

Insurance for both children and parents was also associated with the lowest percentages of missed preventive services; however, the variability between the 6 family insurance patterns was narrower with fewer significant associations in multivariate analyses (Table 3). Compared with insured children with insured parents, insured children with uninsured parents had higher adjusted odds of having never received at least 1 of 4 preventive counseling services (OR = 1.20; 95% CI, 1.04-1.39) and to have never received all 4 services (OR = 1.10; 95% CI, 1.01-1.21). Insured children with 1 parent uninsured and 1 parent insured had higher odds of missing at least 1 of 4 preventive counseling services in the past 2 years (OR = 1.26; 95% CI, 1.04-1.53) and never having had at least 1 of the 4 preventive counseling services (OR = 1.33; 95% CI, 1.11-1.60) when compared with insured children with insured parents. Although not all outcomes in Table 3 reached statistical significance, the trend suggests increased vulnerability as family insurance patterns deviate from both child and parents insured.

Other factors consistently associated with higher odds of unmet needs included living in families earning less than 400% of the federal poverty level compared with those earning 400% federal poverty level or more; living in the South, Midwest, or the West vs the Northeast; and having parents who did not complete high school. Patterns associated with race/ethnicity were more mixed. Hispanic children had higher or similar odds of experiencing unmet insurance and health care needs when compared with white, non-Hispanic children (Table 2); however, they had lower odds of unmet preventive counseling needs (Table 3). Similarly, racial minorities had similar or higher odds of experiencing unmet needs described in Table 2 but no significantly different odds in receipt of preventive counseling in Table 3.

DISCUSSION

Cross-sectionally, more than 1 in 4 US children, aged 2 to 17 years and living with at least 1 parent, had no health insurance coverage for themselves or their parents between 2002 and 2006. Although insurance patterns change with time, full-year patterns tend to mirror cross-sectional patterns but with more people vulnerable to periods of time without health insurance coverage.[15] In this study, the largest differences in children's receipt of necessary care and preventive counseling were between insured and uninsured children, which confirmed previous evidence. Further, uninsured children had the highest rates of unmet needs overall, with few differences based on parental insurance status. For insured children, however, parental insurance status was significantly associated with higher odds of unmet needs, independent of child coverage. Not all associations between unmet needs and insured children with uninsured parents reached statistical significance, but the adjusted odds ratio was greater than 1.00 in all cases, suggesting a consistent pattern of vulnerability associated with parental lack of coverage.

This study confirms and expands upon previous documentation about the importance of providing health insurance to both parents and children[18-22] by examining nationally representative data from all income groups. Coverage for parents is independently associated with children's access to health care services. In other words, insured children in this study with at least 1 parent who lacked coverage were more likely to go without necessary health care and preventive counseling services.

Somewhat surprisingly, there were few significant differences in receipt of preventive counseling by race/ethnicity. In fact, Hispanic children had lower odds of unmet preventive needs compared with white, non-Hispanics. These findings, which are contrary to well-known evidence about racial and ethnic disparities, might be attributed to different models for how preventive counseling is delivered across usual source of care sites. Federally qualified health centers (FQHCs) and other providers for the underserved may be organizing well-child visits in a manner different from that of small private practice sites to enable nonphysician clinicians to deliver counseling and other recommended preventive services. Not surprisingly, children from households with lower earnings and whose parents had lower educational attainment had received fewer services. It is difficult to afford the time and money required to take children for preventive visits, and lower wage earners are less likely to have paid sick leave, transportation, child care, and other resources that make routine health care visits feasible. Those in the lowest income group appeared to be doing marginally better, perhaps due to having nonworking families with more time to obtain services or disproportionately utilizing FQHCs and other alternative models of care. Interestingly, variability in children's receipt of preventive counseling services was less striking in comparisons between groups.

The lack of statistical significance between groups

having missed at least 1 preventive counseling service was likely due to the high rate of unmet preventive counseling needs across all groups. Even among children with optimal patterns of family coverage, there was a high percentage reporting unmet needs and having not received preventive counseling, which confirms the recent reports by Mangione-Smith, et al,[29] showing varied quality and low rates of receipt of indicated care for all children in ambulatory care settings across the United States. Improving the quality of care provided to children will require not only stable family insurance coverage but also targeted interventions to improve how care is delivered.

Policy Implications

It is likely that the US employer-sponsored health insurance model will continue to erode due to unsustainable costs.[30-32] The question then arises as to how we can best cover children's health care services. In the short term, children in families unable to access employer-sponsored health insurance should be encouraged to apply for SCHIP coverage, which has been expanded in many states to accommodate the current need. SCHIP has been successful at improving children's insurance rates.[33,34] The vulnerability of children in this study that is due not only to their own coverage instabilities but also the lack of reliable coverage for parents, however, highlights the need to look beyond child-only insurance models in the longer term. In fact, when states have expanded public coverage to parents, children have maintained more stable coverage.[35,36] In contrast, policy solutions that provide incremental insurance coverage for children only—covering parents under a different plan—add unnecessary layers of complexity for vulnerable families.[19] If the current trend continues, the majority of US children will soon live in families with discordant and disrupted patterns of family health insurance.[14] There are really 2 major options for future reform: (1) incrementally insure different age-groups (eg, children, the elderly) under public insurance programs hoping those in between can cling to employer-sponsored or some other form of private coverage; or (2) replace the current patchwork of public insurance, private insurance, and pray-you-don't-get-sick plans with a new comprehensive model that provides a basic level of stable coverage to all families and to everyone in the family.

Practice Implications

Until the United States can implement widespread reform, clinicians can help identify children and parents who may qualify for Medicaid or SCHIP. While simultaneously advocating for major change to improve access to primary health care services for all families, clinicians can develop practice interventions to assist eligible families with insurance enrollment applications. For example, primary care offices could devise methods to keep track of a patient's public insurance enrollment date and mail them reminder notifications before upcoming renewal periods. Family physicians must capitalize on being in the unique position of providing primary care to multiple members of the same family, regardless of whether they have different insurance plans. They can, for example, develop methods to pull charts for children when parents have a visit to determine whether their child is overdue for preventive care, and vice versa, for keeping the parents up to date. With widespread implementation of electronic health record systems, many of these processes and potential interventions could be computerized.

Limitations

Secondary analyses are limited by the existing data. For example, MEPS data are available through 2006, so we were not able to ascertain how families have fared in the recent economic downturn. We assessed only the MEPS-HC preventive services, and we could obtain only the insurance status of parents in the respondent household. Second, as with all studies that rely on self-report, response bias remains a possibility. Third, although the MEPS-HC is representative of the civilian, noninstitutionalized US population, the format of our analyses limits causal inferences. Finally, we aimed to achieve consistency in our examination of how family insurance patterns were associated with all outcomes; thus, we included the same covariates across all models. We secondarily assessed associations with other covariates but did not build individual models for a comprehensive examination of each covariate.

In conclusion, an increasing number of US families have discordant parent-child coverage patterns and disrupted health insurance coverage. When parents lack health insurance, their children may receive fewer recommended health care and preventive counseling services. In the short term, family physicians have the unique opportunity to implement practice management strategies that can improve receipt of care for both children and parents. In the longer term, ensuring universal access to health care services and recommended preventive care will require comprehensive reforms. Keeping the entire family in mind when crafting any new reforms will be essential to achieving a sustainable health care system and the best possible health outcomes for our children.

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Key words: Health insurance; access to health care; SCHIP; health policy; primary health care

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