Published in final edited form as:

Matern Child Health J. 2011 November ; 15(8): 1238–1248. doi:10.1007/s10995-010-0706-4.

Comparing Type of Health Insurance Among Low-Income Children: A Mixed-Methods Study from Oregon

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Abstract

We employed a mixed-methods study of primary data from a statewide household survey and in-person interviews with parents to examine—quantitatively and qualitatively—whether low-income children experienced differences between public and private insurance coverage types. We carried out 24 in-depth interviews with a sub-sample of respondents to Oregon’s 2005 Children’s Access to Healthcare Study (CAHS), analyzed using a standard iterative process and immersion/crystallization cycles. Qualitative findings guided quantitative analyses of CAHS data that assessed associations between insurance type and parental-reported unmet children’s health care needs. Interviewees uniformly reported that stable health insurance was important, but there was no consensus regarding which type was superior. Quantitatively, there were only a few significant differences. Cross-sectionally, compared with private coverage, public coverage was associated with higher odds of unmet specialty care needs (odds ratio [OR] 3.54; 95% confidence interval [CI] 1.52–8.24). Comparing full-year coverage patterns, those with public coverage had lower odds of unmet prescription needs (OR 0.60, 95% CI 0.36–0.99) and unmet mental health counseling needs (OR 0.24, 95% CI 0.10–0.63), compared with privately covered children. Low-income Oregon parents reported few differences in their child’s experience with private versus public coverage.

Keywords

Child health insurance; Child access to care; Medicaid; CHIP; Health services research; Health policy; Health care disparities

Introduction

For children in the United States (US), stable health insurance coverage guarantees better “financial access” to care; [1–4] even short coverage gaps are associated with unmet needs [5]. Recent national health insurance reform debates reinforced the importance of public insurance programs in guaranteeing this access, and the Children’s Health Insurance Program (CHIP) entered its second decade in 2009 with expansions in many states [6–9.]

To inform CHIP expansion efforts in Oregon, we partnered with state policy-makers to conduct the Oregon Children’s Access to Healthcare Survey (CAHS). Initial analyses from this survey of Oregon’s food stamp population confirmed thousands of eligible children were not enrolled in public health insurance programs; some were privately insured, others were uninsured [10]. To better understand families’ decisions in choosing between types of insurance plans available, we conducted qualitative in-depth interviews with a subsample of parents responding to the CAHS. During this exploratory investigation, many qualitative respondents spontaneously offered narratives about expansions in public insurance programs, the inclusion of public insurance options in national exchange programs, and their perceptions about public versus private insurance coverage. These findings guided the second study phase, which included a directed quantitative evaluation of statewide data from the Oregon CAHS. We aimed to determine, among all CAHS respondents, the comparative effectiveness of public versus private insurance coverage as measured by parental-reported unmet children’s health care needs.

Study Methods

This study employed a mixed-methods approach: in-depth qualitative explorations which then guided a quantitative inquiry of statewide data from Oregon’s Children’s Access to Healthcare Survey, a survey of Oregon’s food stamp population in 2005. Specifically, we examined—both quantitatively and qualitatively—whether low-income families enrolled in Oregon’s food stamp program believed there was a difference between public versus private health insurance coverage for their children.

Overview of the Oregon Children’s Access to Healthcare Survey

The statewide CAHS was created with questions adapted from several national surveys [11–14]. The CAHS was designed to be a self-administered mail-return survey and contained 63 items written at a fifth grade reading level. Respondents were asked to recall insurance coverage and unmet health care needs over the past 12 months, and several questions pertained to similar topics to verify consistency. The potential for differential recall of events by subgroups was deemed minimal. After pilot tests were conducted with parents of low-income children, the surveys were translated into Spanish and Russian (the most common

non-English languages among this population), and then independently back translated. We used a four-wave methodology (two surveys and two reminder postcards), and participants were entered into a drawing for two \$100 gift cards. Due to budgetary constraints, telephone follow-up was not possible.

The CAHS was mailed to a stratified, random sample of 10,175 families, representative of the 84,087 families with at least one child over 1 year of age enrolled in Oregon's food stamp program in January 2005. This program had essentially the same eligibility requirements for children aged 1–18 as the Oregon Health Plan (OHP)—the state public health insurance program for low income children who qualify for Medicaid or CHIP coverage. We found that approximately one quarter of the households with children enrolled in food stamps did not have children enrolled in the OHP. We used the survey selection procedure in Version 9.1 of Statistical Analysis Software (SAS), aided by Power Analysis and Sample Size (PASS) software for adequate power calculations, to obtain a stratified, random sample. Our final sample included 8,636 eligible households (families who had moved out of state and those with no current address were excluded). More details regarding the CAHS design, methods, and analyses have been reported elsewhere [10] (See also Reviewer Appendix 1 for the weighting grid).

Phase I: Qualitative Data Collection and Analysis

We identified a subpopulation of CAHS respondent families who had children with a prior history of public insurance coverage but without public coverage at the time of survey completion. From this group, we selected a stratified, random sample of 432 potential interview participants, balanced between urban and rural locations and with different types/patterns of coverage. We sent potential participants an initial letter by mail, and made several attempts to contact them by telephone to schedule a face-to-face interview. After completion of 24 individual interviews conducted in participants homes across Oregon, preliminary data analysis indicated that we had reached saturation on several major themes and had a qualitative study population with many characteristics similar to the sample of 432 families. [15] (Also, see Reviewer Appendix 2.)

Two research assistants conducted the interviews using the same semi-structured guide, designed to elicit informants' knowledge, beliefs and attitudes about particular topics. Questions were designed to explore possible facilitators and barriers to children's health insurance enrollment and health care service utilization. All interviews were conducted between July 8 and August 19, 2008. Prior to each interview, the interviewer reviewed consent documents and assisted participants in completing written consent forms. Individual interviews averaged approximately 60–90 min in length. All interviews were digitally recorded (with participant agreement) and then subsequently transcribed in their entirety verbatim.

The qualitative analysis was done by a five person, multi-disciplinary team. Each of the five team members independently read all 24 interview transcripts and identified themes. We used a standard iterative process to create an initial thematic codebook [16]. We then repeated our individual reviews, this time examining transcripts line-by-line applying the codes to specific text and revising the code-book with group consensus throughout. After

completing the standard iterative process, we also conducted a series of immersion/crystallization cycles [17]. We received guidance and feedback throughout the process from a doctoral level public health researcher with expertise in health literacy/health communication and qualitative analytical techniques.

Phase II: Quantitative Analyses Following Qualitative Interviews

To quantitatively probe the qualitative theme related to differences in public versus private coverage, this second phase was designed to analyze data from all 2,681 completed CAHS surveys. We used the following outcome variables contained in the CAHS: unmet medical needs; unmet prescription needs; no doctor visits in the past year; delayed urgent care; difficulty obtaining specialty care, dental care, and mental health services, and a composite unmet health care needs index variable (See Table 1).

We created a 3-category *cross-sectional* child insurance type predictor variable: private insurance, public insurance and uninsured (on the date of survey completion). We also created a 5-category *full-year* predictor variable: (1) child had full-year private insurance ($n = 446$); (2) child had full-year public insurance ($n = 1,168$); (3) child had full-year combination of private and public insurance ($n = 98$); (4) child had part-year insurance (coverage gap) ($n = 265$); (5) child was uninsured for the full-year ($n = 285$).

We used the Aday and Andersen conceptual model to guide identification of nine covariates that might influence children's access to care [18]. We used two-tailed, chi-square analyses to test univariate associations between the outcomes and the potential covariates. All nine independent variables were associated with at least one outcome at the 90% confidence level ($P < 0.10$) and were included in logistic regression models to assess the adjusted associations between type of insurance and child's access to and utilization of health care services. These included: child's age, race/ethnicity, household income, parental employment, parental insurance type, whether or not the child had a usual source of care, whether or not the child had a special health care need, family composition, and region of residence.

We created univariate and multivariate models (logistic regression) to assess the associations between child's insurance type and parental-reported access to and utilization of children's health care services. We used SPSS Version 16.0 with the complex samples module, and STATA Version 10.1 to conduct statistical tests and make estimates with variance adjustment required for the complex sampling designs of the CAHS. We set α level at 0.05 for all multivariate analyses a priori. All aspects of the CAHS survey and qualitative interview study protocol were approved by the Oregon Health and Science University Institutional Review Board.

Results

Table 2 presents quotes from parents discussing their beliefs about public versus private insurance. All interviewees agreed that having insurance coverage for their child(ren) was important; however, there was no consensus among these families about which type of coverage was preferred. Most expressed gratitude that the public coverage option was available to them. Some believed their care was better with public coverage versus private

coverage, but others reported feeling stigmatized due to their public coverage. Others felt that private coverage gave them more provider options, equitable treatment, and timely access to appointments. A common criticism of public coverage was limited access to providers, especially dentists. Private coverage was criticized for being too expensive. Respondents faulted both public and private insurance for placing restrictions on covered services.

We received completed surveys from 2,681 households, for a response rate of approximately 31%. In the weighted analyses representative of the Oregon food stamp population, approximately 16.1% of children had private insurance, 73.0% were publicly covered, and 10.9% were uninsured. When comparing parental-reported responses to questions about unmet health care needs, uninsured children had the highest odds of experiencing unmet need. In comparisons between children with public versus private coverage on the date of survey completion, only 1 out of 8 showed a statistically significant difference. After adjustments, publicly insured children had higher odds of reporting difficulty obtaining specialty referrals (OR 3.54, 95% CI 1.52–8.24), as compared with privately insured children. These data also suggested that publicly insured children had less difficulty obtaining mental health counseling (OR 0.40, 95% CI 0.16–1.00), although the associated confidence interval did not, strictly speaking, achieve statistical significance.

When considering full-year insurance coverage, the associated vulnerabilities for children who were uninsured all year remained consistent. Children with gaps in coverage had higher odds of experiencing 5 of the 8 unmet need outcomes. When comparing public versus private coverage among this cohort of low-income children, full-year public coverage was associated with lower odds of unmet prescription (OR 0.60, 95% CI 0.36–0.99) and unmet mental health counseling needs (OR 0.24, 95% CI 0.10–0.63), as compared with full-year private coverage. No statistically significant public versus private differences were found comparing reports of the other 6 unmet need outcomes.

Discussion

We found no clear qualitative consensus regarding a superior type of insurance coverage. These findings suggest that many factors play a role in whether parents of eligible children opt for a public versus a private insurance plan. For example, stigma and limited provider options may contribute to parental hesitancy regarding enrolling in a public health insurance program. In contrast, concerns about high costs and uncovered services may cause a parent to forgo a private plan offered by his or her employer. We found only a few quantitative differences in rates of parental-reported unmet need between children covered by public versus private insurance.

Our findings confirm and contribute to those presented in previous studies. Consistent with past work, we found that children uninsured all year were most likely to have unmet needs. When directly comparing public versus private coverage, our study population reported higher odds of unmet specialty needs among publicly covered children (Table 3), which is consistent with previous reports of disparities in accessing outpatient specialist services [19–22]. This association did not remain significant in our examination of full-year coverage

patterns, suggesting that stability of coverage may play a more crucial role than type of coverage (Table 4). Similar to past studies of unmet mental health care needs, children with full-year public coverage fared better than those with private coverage [23]. In the analysis of coverage at one point in time, privately insured children fared no better than the uninsured in gaining access to mental health services, also consistent with previous findings [24]. However, this association disappeared when assessing full-year patterns, again confirming that stability of coverage matters. When considering full year coverage patterns, children with public insurance also fared better than those privately insured in gaining access to necessary prescription medications.

While we did not quantitatively assess costs, our qualitative respondents reported higher costs associated with private versus public coverage, which was consistent with previous work that has shown that medical spending for children with public coverage is lower compared to the cost of care for privately insured children [25–27]. In summary, this study again confirmed that health insurance matters for children, highlighted the importance of stable coverage, and showed few differences between private and public coverage, as perceived by low-income parents. It goes beyond traditional quantitative methods by using a unique mixed-methods approach, which is less commonly used to assess the comparative effectiveness of insurance type among a low-income population.

This research is timely and relevant to current policy discussions regarding the feasibility and acceptability of public versus private health insurance options for all families. It showed equivalence between public and private options on many measures. Only one statistical difference favored private insurance and the others suggested that publicly covered children fared better. One explanation for why publicly covered children are receiving better care likely relates to state and federal efforts to improve quality and comprehensiveness of services to these children, such as the Early Periodic Screening, Diagnosis and Treatment (EPSDT) programs [28–31]. This progress will be further enhanced by the development of additional Children's Healthcare Quality Measures for Medicaid and CHIP Programs by the National Advisory Council Subcommittee, formed to address the mandate in Title IV of the Children's Health Insurance Program Reauthorization Act (CHIPRA; Public Law 111-3; February 2, 2009) [32].

As private insurers make bold decisions to leave children behind [33–35], it is perhaps time to consider a public option for all children. If a public option were available for all families, it would allow further studies that examine the comparative effectiveness of public versus private coverage among all income groups. A public option that is more widely available may also change the way this option is perceived. If everyone had a public option, this option might become more acceptable (i.e. minimize stigma and eliminate the perception of a two-tiered system). Efforts in this direction should pay close attention to how the public payment system for providers, especially pediatric specialists, needs to be reformed with more emphasis on quality of care and comprehensiveness of care and less on paying individual fees for services.

Short of a universally available public option, which has not been feasible to accomplish in the current federal political climate, these findings support continued state efforts to expand

and stabilize children's coverage. For example, states can expand sliding scale public options to allow parents who prefer public insurance to maintain CHIP coverage for their children, even when their incomes increase beyond eligibility thresholds. Or, alternatively, premium assistance options could be expanded to ensure fluidity of private coverage if families fall below an affordability threshold. States must also continue to standardize quality measures and ensure children receive necessary EPSDT and other important preventive care services.

Our findings should be interpreted in light of several potential limitations. First, the CAHS was limited to Oregon families enrolled in the food stamp program who have different characteristics compared to a general low-income population. Second, our secondary analyses were limited by the existing data. For example, we were not able to ascertain how families have fared in the recent economic downturn after 2008. Third, as with all studies that rely on self-report from a subsample of the overall population, response bias remains a possibility. Our response rate of 31% was consistent with rates for comparable statewide and national surveys of Medicaid-eligible populations [36–38]. Survey respondents had similar characteristics to the total eligible sample, and data were weighted back to the entire food stamp population [39, 40]. Finally, beyond any type of health insurance, a growing body of literature suggests that insuring all eligible children is not a panacea and does not sufficiently guarantee that their health care needs will be met [41–46]. It is important to note that there are other factors contributing to whether children's health care needs are met or not.

Conclusions

This study revealed no qualitative consensus about the superiority of public versus private insurance, and there were few quantitative differences in self-reported rates of unmet need among low-income Oregon children with public versus private health insurance coverage. It is time to create a public insurance option for all children, which will be the only way to truly compare public versus private insurance and also the best mechanism for eliminating the stigma associated with public coverage.

Acknowledgments

This project received direct support from grant numbers K08 HS16181 and R01 HS018569 from the Agency for Healthcare Research and Quality (AHRQ) and the Oregon Health and Science University Department of Family Medicine. We also wish to thank our colleagues in the Oregon Office for Health Policy and Research and the Division of Medical Assistance Programs. We are also extremely grateful to the parents who shared their time and insights with us.

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Reviewer Appendix 1

See Table 5.

Reviewer Appendix 2

See Table 6.

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Table 1

Outcome variables contained in the Oregon Children's Access to Healthcare Survey (CAHS) pertaining to unmet health care needs for children

Unmet health care needs variable	Corresponding CAHS question(s)
Unmet medical need	In the last 12 months, was there any time when YOUR CHILD needed medical care, but did NOT get it? [yes/no]
Unmet prescription need	In the last 12 months, was there ever a time YOUR CHILD needed prescription medicines but you could NOT afford to fill the prescription? (DO NOT count free samples as a filled prescription.) [yes/no] In the last 12 months, was there ever a time YOUR CHILD had to skip doses or take less medication because you couldn't afford the medicine? [yes/no]
No doctor visits	In the last 12 months, how many times did you take YOUR CHILD to a doctor's office or clinic for care? (DO NOT include emergency room or hospital visits. Your best estimate is fine.) [continuous variable, dichotomized as yes doctor visits/no doctor visits]
Big problem getting dental care	In the last 12 months, how much of a problem, if any, was it to get dental care for your child? [dichotomized: not a problem/small problem, big problem]
Rarely or never got immediate care	In the last 12 months, when YOUR CHILD needed care right away for an illness, injury, or condition, how often did your child get care as soon as you wanted it? INCLUDED OPTION TO OPT OUT IF CHILD DID NOT NEED CARE [dichotomized: always/usually, rarely/never]
Big problem getting specialty care	In the last 12 months, did you or a doctor think that YOUR CHILD needed care from a specialist? (Specialists are doctors like surgeons, allergy doctors, skin doctors, and others who specialize in one area of health care.) ONLY THOSE RESPONDING YES were asked: In the last 12 months, how much of a problem, if any, was it to see the specialist that your child needed to see? [dichotomized: not a problem/small problem, big problem]
Big problem getting counseling	Does your child have any kind of developmental, emotional, or mental health condition now for which he or she needs treatment or counseling? ONLY THOSE RESPONDING YES were asked: In the last 12 months, how much of a problem, if any, was it for you to get this treatment or counseling for your child? [dichotomized: not a problem/small problem, big problem]
Composite unmet health care needs	Reported 1 unmet health care needs

Table 2

Major qualitative themes: interview respondents comments regarding public versus private insurance

Public insurance	Private insurance
<p><i>Pros:</i> It is available ...I'm one of the lucky few, as bad as this sounds, one of the lucky few that because I'm in severe poverty, I get OHP, which is a shame, you either have to have a very nice income or have hardly any income...the middle class is so screwed. And, as bad as it sounds to be lucky to be in poverty, we're lucky to be in poverty....(1235) I really like that it's easy...you don't have to pay a copay...otherwise, if I had to go through work it would be an expense, which I could never afford. So I really appreciate this system they have for the kids.(1396) but just to know there is a little safety net...if something happens to you, everything that you have isn't lost.(1098) I understand it is provided by the state and it is not going to be the same as private health insurance because there is no way they can afford to pay private health insurance rates and I understand that...better than having nothing. (21424) Quality care Honestly, I feel like I get better care with OHP...it seems like the OHP doctors will take a little more time...(21361) ...Once you found an office that took it (public insurance), I don't think there was any difference in care. (22666)</p> <p><i>Cons:</i> Limited access to providers The only problem (with public insurance) was you had to take them (children) to certain doctors, and those weren't generally the best doctors, I didn't trust their judgment. (2336) ...the main issue for me has been access to dentists that actually accept OHP, because there aren't very many, and it takes months and months for you to even get an appointment. In the case of my youngest child, he had fallen and chipped his 2 front teeth in a crescent shape, and they started rotting before he could even get an appointment...(22660) The dental program on OHP totally sucks, I mean, the dentist that will take it is really limited. It's hard to find one that will take it. And even when you do get them, they don't want to do treatments that they would do for another child that has insurance through their parents. It is the bare minimum...(22999) Limited benefits (Uncovered services) ...I think we talked about him (respondent's son) seeing an ENT because he had repeated ear infections and it turned into a bigger deal because first of all getting OHP to approve that, and then if not me paying for it so that wasn't going to happen...we just muddled through and dealt with the ear infections as they came up...(22666) Dental, well dental has been really hard to get. My son actually needed braces and I couldn't get them. His teeth are crooked on the bottom. He's fifteen and I battled that, but I finally just gave up (1288). Lower quality/stigma '...can I have a copy of your card,' and they look at you like uh-ha, single white trash mom on the OHP. 'No, I'm working 3 jobs thank you.' (2336) You kind of feel...lower than private health care insurance, you feel like you're not as important, like when you go to the doctor...you almost feel like they're looking down their noses at you... There's a level of shame that's with it...It's not anything like you have to step to the side because you're on OHP, it's not blatant, it's just an overall feeling, the long waits for appointments, the select few doctors that will take it, so just all those things rolled into one makes you feel almost like you're lower class or less important. (22660)</p>	<p><i>Pros:</i> More options/easier to get appointments (With) private insurance...you can call and make a dentist appointment, get in like that week, and it doesn't make any sense to me how come for OHP, it's months to get in. It does make a difference, the only thing I can think of is there's so many people on it and so few dentists that will take it. (22660) With a private doctor's office, if I can't get in with my primary person and it's an urgent need, then they have a whole network of people you can get in with. If you can't get in with the community health center and they just don't have any openings, they just don't have any openings, there's nothing else you can do, you can't go somewhere else, they don't have other places you can go... (22666) Treated better I felt looked down upon on the OHP, then when you get your private insurance, they treat you like everybody else (2336) I notice there is a stigma, there's a stereotype, with the OHP. As soon as people find out that you are on the OHP, it is a whole different ball game than if you have Blue Cross or Blue Shield. (22999)</p> <p><i>Cons:</i> High costs/unaffordable ...every time my husband would lose his job or switch jobs...we get the COBRA information and it says, 'Oh you can pay \$865 per month for coverage' and it's like 'we have no income so how are we supposed to pay?' (21421) ...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?...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 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, and it was hard because we wanted to keep the insurance for the kids...that really hurt. (22065) Basically if you're not completely low income, living on welfare, you can't get insurance unless you get it through your employer, which generally costs an arm and a leg, it ends up costing more than you can afford if you have a family...I know lots of people that end up getting collection notices, cause the insurance doesn't pay on time, or the insurance pays and it was a lot more than they anticipated and they can't pay for it. (2336) The health coverage my husband has offered to him through his job is so astronomically expensive, it's 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? (22660) they told me I cannot get health insurance because I make \$1.50 more, because I got a raise. So, I have to go to my boss and say, 'can you take that back I need to get OHP' otherwise I have to pay \$700 for health insurance. (1396) The frustrating thing for me is that the doctors charge so much and the insurance pays so little...I don't know whether the doctors are charging too much or whether the insurance companies are being too stingy. (21424) Limit in covered services Yeah, I would say OHP was better than the Blue Cross because, Blue Cross is good but they don't cover as much, like the anesthesia, I had a bill for that. (2323)</p>

Table 3

Cross-sectional insurance type and child's unmet health care needs in the preceding 12 months, Oregon
Children's Access to Healthcare Survey (CAHS)

Child's unmet health care needs	Oregon CAHS [weighted% within total population and each insurance group reporting unmet need]*	Oregon CAHS Adjusted OR**
Unmet medical need	(Total 16%)	
Child has private insurance	13.6	1.00
Child has public insurance	13.5	1.17 (0.69–1.99)
Child is uninsured	37.6	3.82 (2.19–6.66)
Unmet prescription need	(Total 22%)	
Child has private insurance	26.8	1.00
Child has public insurance	18.6	0.71 (0.46–1.11)
Child is uninsured	38.7	2.25 (1.34–3.79)
No doctor visits	(Total 14%)	
Child has private insurance	9.9	1.00
Child has public insurance	11.1	1.02 (0.57–1.83)
Child is uninsured	38.5	2.19 (1.71–4.11)
Big problem getting dental care	(Total 25%)	
Child has private insurance	24.9	1.00
Child has public insurance	21.4	1.01 (0.66–1.53)
Child is uninsured	60.0	5.82 (3.48–9.72)
Rarely or never got immediate care ^a	(Total 21%)	
Child has private insurance	14.7	1.00
Child has public insurance	19.3	1.12 (0.61–2.08)
Child is uninsured	51.8	4.74 (2.40–9.34)
Big problem getting specialty care ^b	(Total 30%)	
Child has private insurance	19.1	1.00
Child has public insurance	28.7	3.54 (1.52–8.24)
Child is uninsured	53.6	8.64 (3.05–24.45)
Big problem getting counseling ^c	(Total 21%)	
Child has private insurance	27.1	1.00
Child has public insurance	16.6	0.40 (0.16–1.00)
Child is uninsured	43.4	2.68 (0.94–7.61)
Composite unmet need index	(Total 48.3%)	
Child has private insurance	49.0	1.00
Child has public insurance	43.1	0.76 (0.53–1.11)
Child is uninsured	82.6	4.15 (2.48–6.92)

CAHS Children's Access to Healthcare Survey (Oregon statewide, food stamp population survey, conducted in 2005)

The bold numbers signify significant odds ratios; a level was set at .05 for all multivariate analyses

* $P < 0.001$ in the χ^2 analysis for overall differences between all insurance groups

^{**} Logistic regression models adjusted for age, race/ethnicity, household income, parental employment, parental insurance type, whether or not child has a usual source of care, and whether or not child has a special health care need, geographic residence, family composition

^a Only among children who needed immediate care in the previous 12 months

^b Only among children who needed specialty care in the previous 12 months

^c Only among children who needed counseling in the previous 12 months

Table 4

Full year insurance type and unmet needs among respondents of the Oregon Children's Healthcare Access Survey (CAHS)

Child's unmet health care needs	Weighted % *	Adjusted odds ratio **
Unmet medical need	(14.3 total population)	
Full year private (Ref)	9.9	1.00
Full year public	8.9	0.83 (0.48–1.43)
Combination of private and public/no gap	10.8	0.78 (0.27–2.25)
Gap	38.1	5.10 (2.83–9.20)
Full year uninsured	39.6	5.08 (2.84–9.10)
Unmet prescription need	(22.3 total population)	–
Full year private (Ref)	29.7	1.00
Full year public	17.3	0.60 (0.36–0.99)
Combination of private and public/no gap	22.8	0.65 (0.32–1.31)
Gap	36.1	1.96 (1.12–3.44)
Full year uninsured	38.2	2.02 (1.14–3.57)
No doctor visits	(13.5 total population)	–
Full year private (Ref)	8.8	1.00
Full year public	9.6	1.29 (0.70–2.38)
Combination of private and public/no gap	11.6	1.66 (0.48–5.75)
Gap	22.7	2.01 (0.97–4.17)
Full year uninsured	43.9	3.82 (2.02–7.22)
Big problem obtaining dental	(25.2 Total Population)	–
Full year private (Ref)	20.5	1.00
Full year public	19.6	1.24 (0.77–2.00)
Combination of private and public/no gap	26.0	1.20 (0.53–2.73)
Gap	42.5	3.88 (2.25–6.70)
Full year uninsured	59.0	7.06 (3.88–12.85)
Delayed urgent care	(20.3 total population)	
Full year private (Ref)	11.8	1.00
Full year public	15.5	1.76 (0.87–3.57)
Combination of private and public/no gap	19.7	2.57 (0.94–7.00)
Gap	36.3	4.55 (1.94–10.70)
Full year uninsured	63.7	9.73 (4.32–21.94)
Big problem obtaining specialty referral	(28.2 total population)	–
Full year private (Ref)	16.9	1.00
Full year public	27.9	1.69 (0.66–4.32)
Combination of private and public/no gap	12.9	0.44 (0.11–1.76)
Gap	33.0	2.32 (0.78–6.86)
Full year uninsured	52.0	6.19 (1.93–19.83)
Big problem obtaining mental health counseling	(17.9 total population)	–
Full year private (Ref)	32.3	1.00

Child's unmet health care needs	Weighted % *	Adjusted odds ratio **
Full year public	14.3	0.24 (0.10–0.63)
Combination of private and public/no gap	20.4	0.20 (0.03–1.44)
Gap	24.7	0.64 (0.19–2.22)
Full year uninsured	21.1	0.62 (0.20–1.91)
Composite unmet needs index	(46.4 total population)	–
Full year private (Ref)	46.6	1.00
Full year public	38.4	0.80 (0.53–1.23)
Combination of private and public/no gap	47.0	1.03 (0.52–2.06)
Gap	74.1	3.74 (2.15–6.50)
Full year uninsured	81.2	4.55 (2.53–8.17)

CAHS: Children's Access to Healthcare Survey (Oregon statewide, food stamp population survey, conducted in 2005)

The bold numbers signify significant odds ratios; a level was set at .05 for all multivariate analyses

[Full-year Private ($n = 446$); Full-year Public ($n = 1,168$); Full-year coverage, combination of private and public ($n = 98$); Coverage gap ($n = 265$); Full-year uninsured ($n = 285$)]

* $P < 0.001$ in the χ^2 analysis for overall differences between all insurance groups

** Logistic regression models adjusted for age, race/ethnicity, household income, parental employment, parental insurance type, whether or not child has a usual source of care, and whether or not child has a special health care need, geographic residence, family composition

Table 5

Sequence of weighting adjustments for non-response using raking estimation process

	Cat	Eligible	Respondents	Nonresp	Base wghts	Nonresp adj	Adjust weight	Adj*resp
NotEnrolled_R1_Whit, non-H	1	600	182	519	1.001196	3.851648352	3.856255587	701.8385
NotEnrolled_R2_Whit, non-H	2	442	126	411	8.0199	4.261904762	34.18005	4,306.686
NotEnrolled_R3_Whit, non-H	3	553	143	513	6.9683	4.587412587	31.96646713	4,571.205
NotEnrolled_R4_Whit, non-H	4	638	171	589	3.4257	4.444444444	15.22533333	2,603.532
NotEnrolled_R5_Whit, non-H	5	428	122	413	2.4564	4.385245902	10.77191803	1,314.174
NotEnrolled_R6_Whit, non-H	6	523	161	454	1.0566	3.819875776	4.036080745	649.809
NotEnrolled_R1_HISP_anyRace	7	95	36	65	1.001196	2.805555556	2.808911483	101.1208
NotEnrolled_R2_HISP_anyRace	8	142	48	138	8.0199	3.875	31.0771125	1,491.701
NotEnrolled_R3_HISP_anyRace	9	140	44	119	6.9683	3.704545455	25.81438409	1,135.833
NotEnrolled_R4_HISP_anyRace	10	52	12	47	3.4257	4.916666667	16.843025	202.1163
NotEnrolled_R5_HISP_anyRace	11	204	46	182	2.4564	4.956521739	12.1752	560.0592
NotEnrolled_R6_HISP_anyRace	12	160	34	151	1.0566	5.441176471	5.749147059	195.471
NotEnrolled_R1_non-Whit, non-H	13	30	6	28	1.001196	5.666666667	5.673444976	34.04067
NotEnrolled_R2_non-Whit, non-H	14	108	29	102	8.0199	4.517241379	36.22782414	1,050.607
NotEnrolled_R3_non-Whit, non-H	15	31	8	26	6.9683	4.25	29.615275	236.9222
NotEnrolled_R4_non-Whit, non-H	16	26	9	20	3.4257	3.222222222	11.03836667	99.3453
NotEnrolled_R5_non-Whit, non-H	17	76	16	69	2.4564	5.3125	13.049625	208.794
NotEnrolled_R6_non-Whit, non-H	18	44	13	35	1.0566	3.692307692	3.901292308	50.7168
Enrolled_R1_Whit, non-H	19	629	245	486	3.2465	2.983673469	9.686495918	2,373.192
Enrolled_R2_Whit, non-H	20	373	119	341	28.3715	3.865546218	109.6713445	13,050.89
Enrolled_R3_Whit, non-H	21	524	170	454	21.3125	3.670588235	78.22941176	13.299
Enrolled_R4_Whit, non-H	22	641	211	516	11.7771	3.44549763	40.57797014	8,561.952
Enrolled_R5_Whit, non-H	23	483	164	411	7.0519	3.506097561	24.72464939	4,054.843
Enrolled_R6_Whit, non-H	24	524	204	403	4.388	2.975490196	13.05645098	2,663.516
Enrolled_R1_HISP_anyRace	25	72	21	61	3.2465	3.904761905	12.67680952	266.213
Enrolled_R2_HISP_anyRace	26	174	54	152	28.3715	3.814814815	108.2320185	5,844.529
Enrolled_R3_HISP_anyRace	27	152	45	124	21.3125	3.755555556	80.04027778	3,601.813
Enrolled_R4_HISP_anyRace	28	74	23	64	11.7771	3.782608696	44.54816087	1,024.608

	Cat	Eligible	Respondents	Nonresp	Base wghts	Nonresp adj	Adjust weight	Adj*resp
Enrolled_R5_HISP_anyRace	29	190	54	166	7.0519	4.074074074	28.72996296	1,551.418
Enrolled_R6_HISP_anyRace	30	152	59	119	4.388	3.016949153	13.23837288	781.064
Enrolled_R1_non-Wht, non-H	31	30	12	23	3.2465	2.916666667	9.468958333	113.6275
Enrolled_R2_non-Wht, non-H	32	149	42	140	28.3715	4.333333333	122.9431667	5,163.613
Enrolled_R3_non-Wht, non-H	33	48	13	42	21.3125	4.230769231	90.16826923	1,172.188
Enrolled_R4_non-Wht, non-H	34	30	8	26	11.7771	4.25	50.052675	400.4214
Enrolled_R5_non-Wht, non-H	35	44	6	47	7.0519	8.833333333	62.29178333	373.7507
Enrolled_R6_non-Wht, non-H	36	59	19	44	4.388	3.315789474	14.54968421	276.444
Total			Unwtd: 2681					Weighted: 84,087.05

Table 6

Characteristics of qualitative study participants to random subsample of children with coverage gaps

	Qualitative study participants <i>n</i> = 24 (unweighted %)	Qualitative study subsample with coverage gaps <i>n</i> = 432 (unweighted %)
<i>Socio-demographics</i>		
Child's age		
1–4 years	20.8	25.4
5–9 years	33.3	29.6
10–14 years	25.0	28.0
15–18 years	20.8	17.0
Race		
White	66.7	66.7
Black	8.3	2.2
Other race/more than one race	25.0	31.1
Ethnicity		
Hispanic	20.8	23.4
Not hispanic	79.2	76.6
Parental employment		
Not employed	45.8	50.8
Employed	54.2	49.2
Household income as % of federal poverty level (FPL)		
Zero	4.2	13.5
1–50% FPL	29.2	29.2
51–100% FPL	29.2	29.5
101–133% FPL	33.3	19.9
> 133% FPL	4.2	7.8
Child has special health care need(s)		
No	87.0	87.2
Yes	13.0	12.8
<i>Insurance descriptives</i>		
Child's insurance status/type		
Privately Insured	25.0	11.2
Publicly Insured	25.0	46.1
Not Insured	50.0	42.7
Parent's insurance status/type		
Privately Insured	19.0	18.6
Publicly Insured	4.8	28.6
Not Insured	76.2	52.9
Child continuity of insurance coverage		
< 6 month gap	60.9	71.9
> 6 month gap	39.1	28.1
Oregon health plan enrollment status		
Currently enrolled	26.1	53.5

	Qualitative study participants <i>n</i> = 24 (unweighted %)	Qualitative study subsample with coverage gaps <i>n</i> = 432 (unweighted %)
Previous enrollment but not current	52.2	41.0
Never enrolled	21.7	5.5
How long since child had health insurance		
< 1 year or current enrollment	70.9	77.3
> 1 year	20.8	14.3
Never had coverage	8.3	6.4
<i>Health care utilization and unmet needs</i>		
Has no current usual source of care	13.6	19.4
Unmet medical need	33.3	38.9
Unmet prescription need	29.2	38.0
No doctor visit in past 12 months	16.7	18.8
Big problem accessing specialty care	40.0	47.1
Big problem accessing dental care	47.8	46.5

Oregon health plan is Oregon's combined medicaid and state children's health insurance program