

**UNINSURANCE AMONG  
CHILDREN WHOSE PARENTS  
ARE LOSING MEDICAID  
COVERAGE:**

**Results from a Statewide  
Survey of Oregon Families**



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Preliminary Results – Do not cite or reproduce without consent

# Immunization Initiation among Infants in the Oregon Health Plan

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# Background

- Even though childhood immunization rates in the U.S. are at record highs, immunization disparities still remain—about one million children in the U.S. are insufficiently immunized, which puts them at risk for vaccine-preventable diseases.

# The Oregon Health Plan (OHP)

- A waived Medicaid program
  - Covers prevention services including immunizations
  - Note: no children were directly cut from OHP due to budget shortages
- In 2000 (study year), 25% of Oregon's children were covered by OHP
- OHP plays a valuable role in the immunization status of children at-risk

# Immunization Initiation: Why Is It Important?

- Oregon infants who did not have their initial immunization by three months of age were 4 to 5 times less likely to be up-to-date by 2 years of age
  - Hepatitis B shot was excluded when determining immunization initiation

# Study Objectives

1. To describe immunization-initiation patterns in a cohort of infants covered by the Oregon Health Plan
2. To identify demographic and health care system factors associated with immunization status among mothers and their infants at three months of age

(Only administrative data was used in this study.)

# Methods

- Population: infants born 2000-2001 in OHP and their mothers
- Babies matched with Oregon ALERT registry
- Correlations between the outcome variable (initiation or non-initiation of immunization) and the independent variables were assessed
- Factors significantly associated with the outcome were entered into a logistic regression model to adjust for confounding and to determine odds ratios

# Results

- 84% of the 39,708 infants received their first immunization by three months of age
- However, 1-in-6 infants had not initiated immunization

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Birth Year</b>			.000**
2000 (21,011)	3,660 (17.4%)	17,351 (82.6%)	
2001 (18,697)	2,816 (15.1%)	15,881 (84.9%)	
<b>Total (39,708)</b>	<b>6,476 (16.3%)</b>	<b>33,232 (83.7%)</b>	
<b>Sex of Infant</b>			.341
Female (19,211)	3,098 (16.1%)	16,113 (83.9%)	
Male (20,497)	3,378 (16.5%)	17,119 (83.5%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Infant Race/ethnicity</b>			.000**
Asian (909)	132 (14.5%)	777 (85.5%)	
Black (1,556)	305 (19.6%)	1,251 (80.4%)	
Hispanic (11,704)	1,666 (14.2%)	10,038 (85.8%)	
Native American (646)	122 (18.9%)	524 (81.1%)	
White (24,131)	4,085 (16.9%)	20,046 (83.1%)	
Other (376)	82 (21.8%)	294 (78.2%)	
Unknown (351)	78 (22.2%)	273 (77.8%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Place of birth</b>			.730
Urban (21,819)	3,545 (16.2%)	18,274 (83.8%)	
Suburban (6,032)	1,004 (16.6%)	5,028 (83.4)	
Rural (11,815)	1,916 (16.2%)	9,899 (83.8%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>OHP program</b>			.000**
TANF (11,286)	2,249 (19.9%)	9,037 (80.1%)	
Foster/SubAdoptive Care (721)	162 (22.5%)	559 (77.5%)	
PLM/CHIP/OHP (27,319)	3,964 (14.5%)	23,355 (85.5%)	
Blind/Disabled (270)	70 (25.9%)	200 (74.1%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Date OHP coverage began by infant age</b>			.000**
Coverage began DOB (32,047)	4,519 (14.1%)	27,528 (86.9%)	
Coverage began 1 week-1 month (874)	129 (14.4%)	745 (86.6%)	
Coverage began 1-2 months (780)	174 (22.4%)	606 (78.6%)	
Coverage began after 2 months (6,007)	1,772 (29.5%)	4,235 (71.5%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Mother's OHP status on birth of infant</b>			.000**
Mom in OHP on infant DOB (34,743)	5,416 (15.6%)	29,327 (84.4%)	
Mom not in OHP on infant DOB (4,965)	1,060 (21.3%)	3,905 (78.7%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Mother's Age at time of birth of infant</b>			.005**
11-17 years old (1,507)	220 (14.6%)	1,287 (85.4%)	
18-20 years old (7,509)	1,104 (14.7%)	6,405 (85.3%)	
21-25 years old (12,222)	1,881 (15.4%)	10,341 (84.6%)	
26-35 years old (10,325)	1,605 (15.5%)	8,720 (84.5%)	
36 years and older (2,154)	388 (18.0%)	1,766 (82.0%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Mother's Language</b>			.000**
English (25,621)	4,086 (15.9%)	21,535 (84.1%)	
Spanish (7,120)	904 (12.7%)	6,216 (87.3%)	
Russian (475)	135 (28.4%)	340 (71.6%)	
Vietnamese (130)	8 (6.2%)	122 (93.8%)	
Other/Unknown (1,424)	294 (20.6%)	1,130 (79.4%)	

Characteristic at time of birth ( <i>n</i> )	Infant Immunization Initiated by 3 Months of Age?		<i>p</i> *
	No (%)	Yes (%)	
<b>Mother's number of OHP births in 2000-2001</b>			.000**
1 (31,790)	4,876 (15.3%)	26,914 (84.7%)	
2 (2,876)	532 (18.5%)	2,344 (81.5%)	
3 (96)	17 (17.7%)	79 (82.3%)	
4 (8)	2 (25%)	6 (75%)	

# Predictors of Immunization Initiation

## 1. Age of infant when OHP coverage began

(OR = 2.1; 95% CI = 1.7, 2.5)

## 2. Mother covered by OHP

(OR = 1.5; 95% CI = 1.4, 1.6)

## 3. OHP eligibility category

(OR = 1.2; 95% CI = 1.1, 1.3)

## 4. Race/ethnicity of infant

(OR = .94; 95% CI = .92, .96)

## 5. Mothers' number of births

(OR = .83; 95% CI = .74, .95)

# Recommendations

The gap between immunization rates in the Medicaid population and the general population can be reduced by assuring the mother's coverage during pregnancy and the infant's coverage beginning at birth.

# Conclusions

- Not only do infants benefit from early Medicaid coverage, but infants will benefit if their mothers have Medicaid insurance as well
- Elimination of the cost barrier alone does not guarantee timely immunization initiation.
- There is much more to learn about what accounts for immunization disparities—even within the first three months of life.

# Actions Taken: Sharing the Study

## Poster Sessions

1. National Immunization Conference,  
Washington, D.C., March 2005
2. Western Maternal and Child Health  
Epidemiology Conference,  
Portland Oregon, May 2005
3. Oregon Public Health Association Annual  
Meeting and Conference,  
Corvallis Oregon, October 2005

# Actions Taken: Sharing the Study

## Publications

– **American Journal of Public Health**

May 2006

– **DHS Staff News**

• June 2006

# Actions Taken

- **Medical Card Messages** – quarterly, a message that reminds pregnant women to notify their case worker when their baby is born
- **Newborn Notification Forms** – regular reminders sent to all Oregon hospitals to use the form

# Actions Taken

## Handout developed for OHP Regional Meetings:

### 1. Outreach workers

- Facilitate eligible pregnant women to obtain OHP coverage

### 2. Case workers

- Reminder to add newborns to mothers case, as soon as possible, after delivery

### 3. Exceptional Needs Care Coordinators

- Attention needed for children blind or disabled, in foster or sub-adoptive care, Native American, African American, or mother's main language is Russian

# Thanks to:

- Oregon Immunization Program for advice and the grant to fund the research
- Oregon ALERT Registry for providing advice and registry data

# RESEARCH TEAM

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# Over 117,000 children in Oregon do not have health insurance.



**Insurance:**  
Many children eligible, but not enrolled

## Oregon's children's coverage is ailing

**Health care** | The state's ranking of fifth from the bottom in insuring the poor signals tough choices ahead

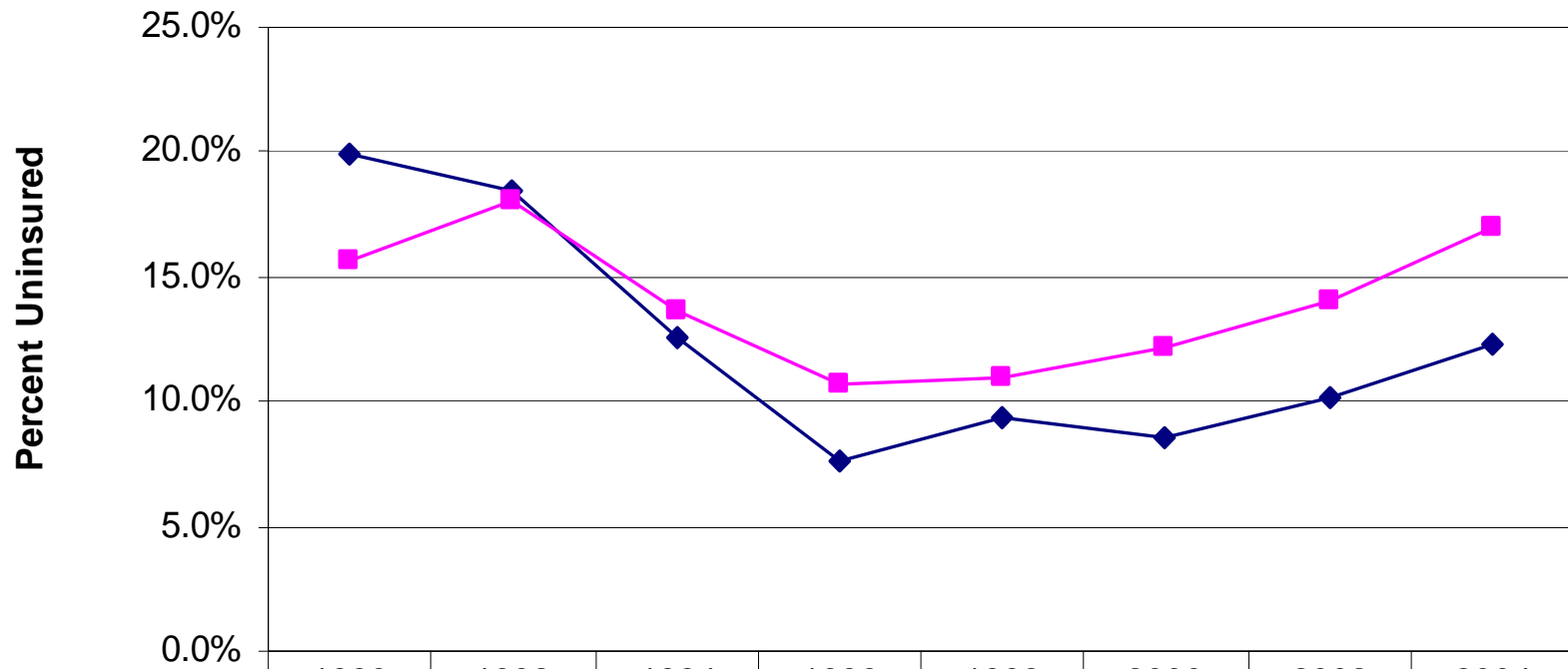
# Approximately 2/3 of these uninsured children may be eligible for public health insurance coverage.

Preliminary Results – Do not cite or reproduce without consent (Oregon Population Study, 2004)

# Oregon Insurance Trends

## Percent Without Health Insurance in Oregon, 1990 to 2004

(Source: Oregon Population Survey)



◆ Children (0 to 17)	19.9%	18.5%	12.6%	7.6%	9.4%	8.5%	10.1%	12.3%
■ All Oregonians	15.6%	18.0%	13.6%	10.7%	11.0%	12.2%	14.0%	17.0%

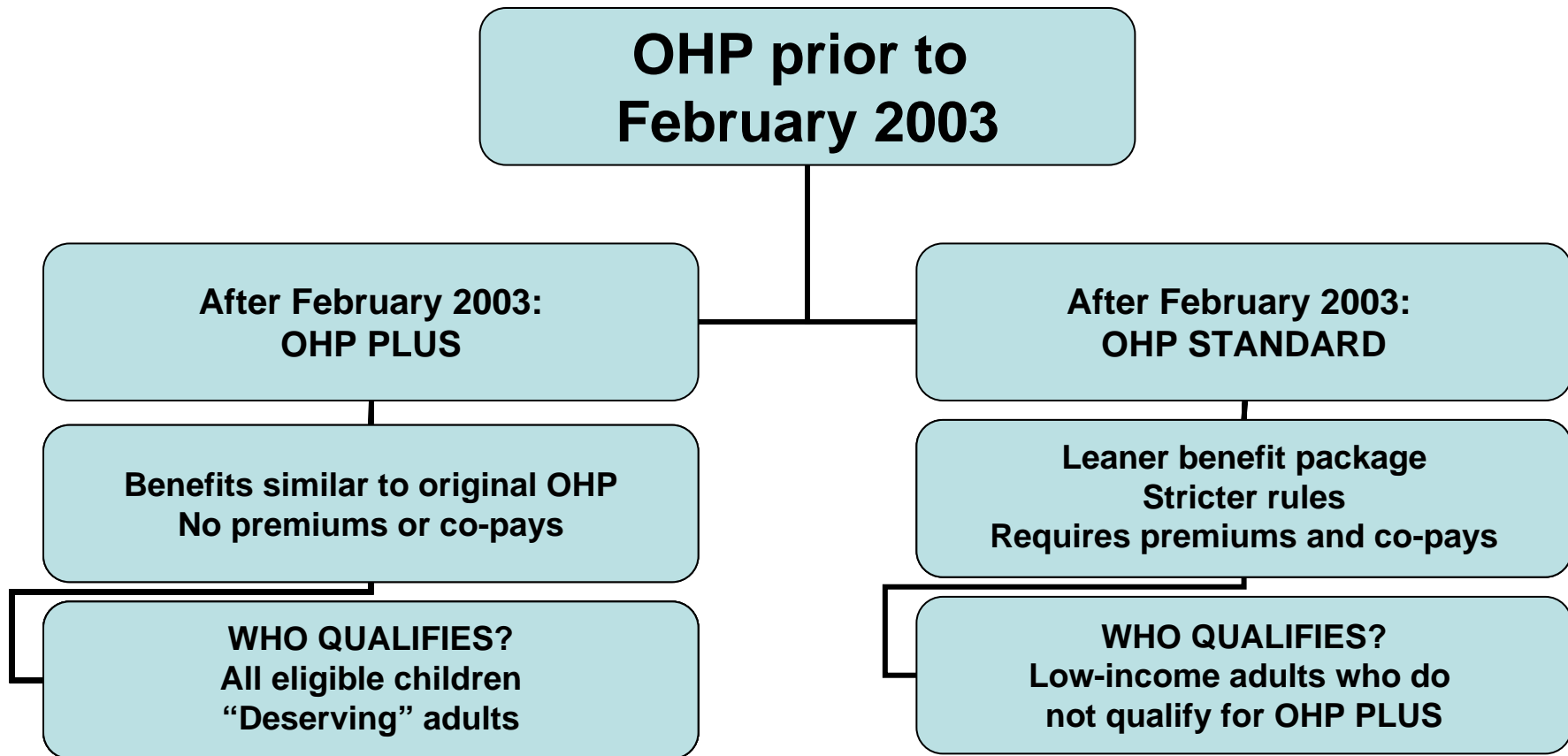
Year



What Happened  
Between 2002  
And 2004?



# Changes in the OREGON HEALTH PLAN (OHP)



**Thousands of Oregon adults lost OHP STANDARD coverage shortly after cost containment policies were implemented (Carlson M, et al. 2006).**

**The recent loss of Medicaid coverage for many Oregon adults may have impacted children's access to health insurance.**

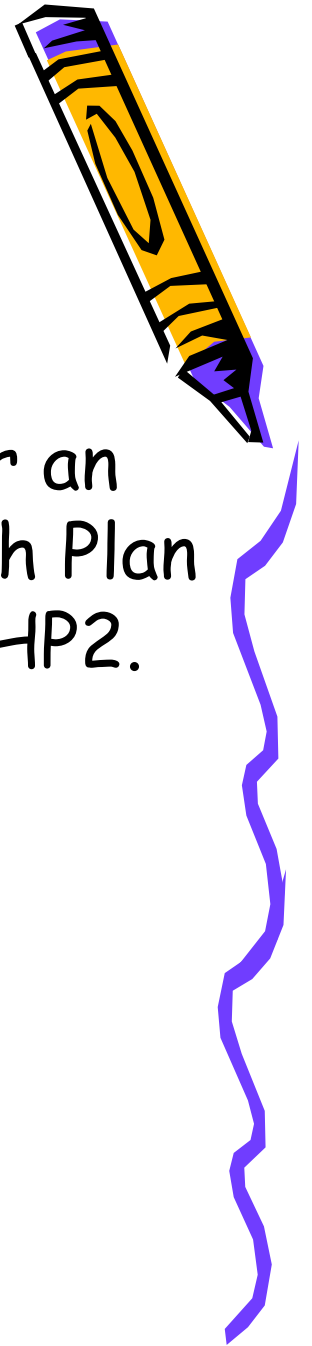


Photo by Jamie Francis,  
The Oregonian

**We conducted a cross-sectional survey of low-income parents in Oregon to identify factors impacting their children's access to health insurance coverage.**

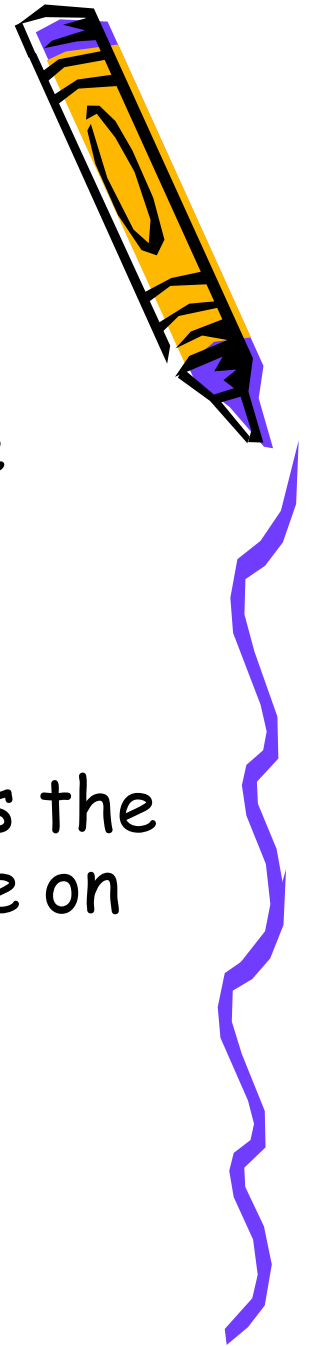
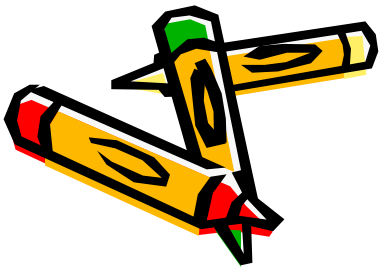
# Principal Measures

- MAIN PREDICTOR VARIABLE: Whether an adult in the household lost Oregon Health Plan Coverage after the implementation of OHP2.
- MAIN OUTCOME VARIABLES:
  - Child's current insurance status
  - Child's insurance gaps in past 12 months



# Analytic Strategy

- Descriptive analysis to identify bivariate associations and significant demographic covariates.
- Multivariate logistic regression to assess the net affect of the main predictor variable on the two key children's insurance status outcomes.



**This study included a stratified, random sample of all families with children enrolled in the food stamp program as of January 31, 2005.**

Total Food Stamp Enrollment as of January 31, 2005  
84,087 Households with Children (age 1-18)

Random Sample of 10,175 Households

Total Ineligible in Random Sample: 1,539

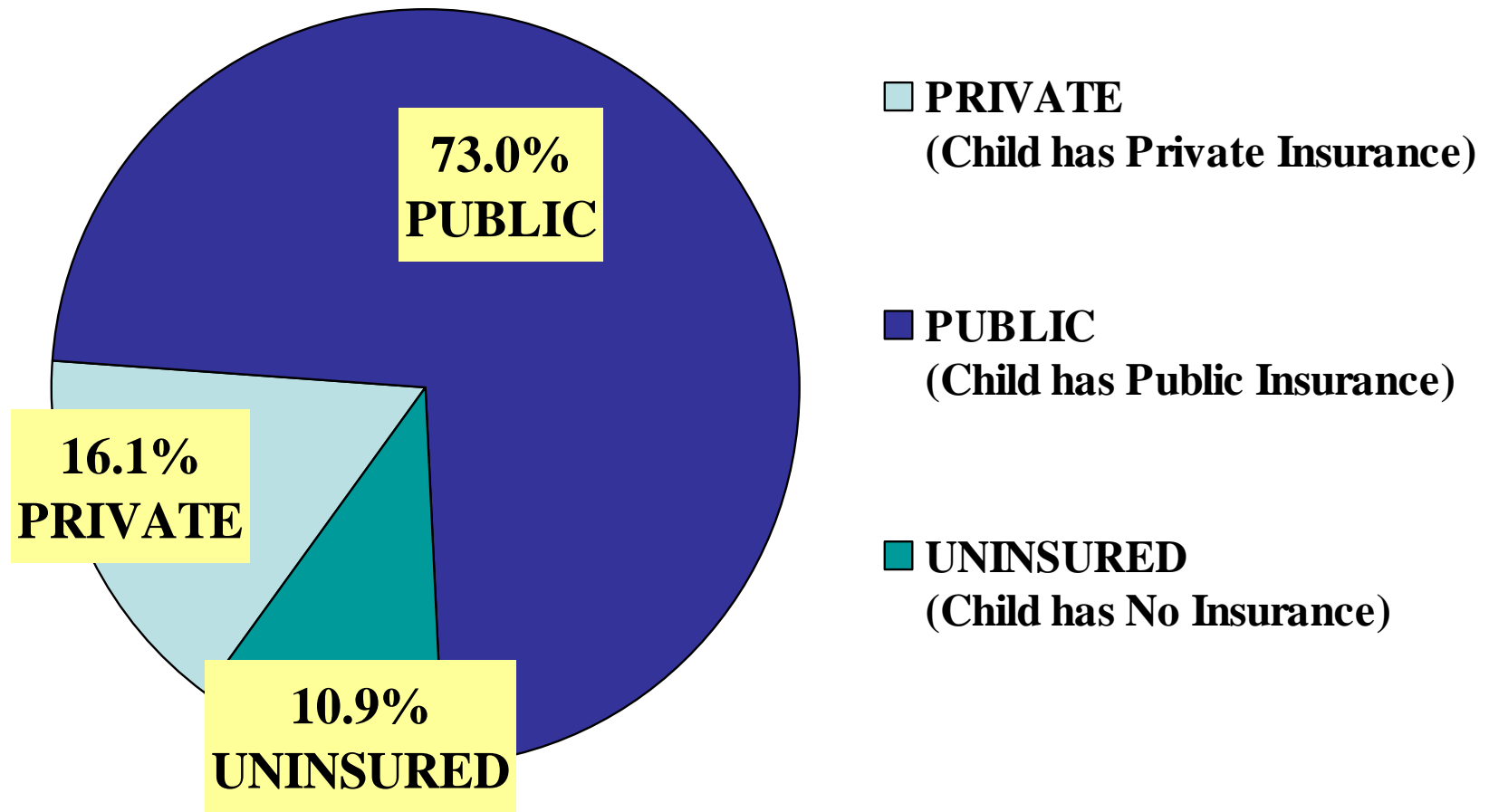
Total Eligible in Random Sample: 8,636

Total Completed Surveys: 2,681  
31.0% of Eligible

# Respondents to the survey were demographically similar to the eligible sample.

Demographics	Eligible Sample (n=8,636)	Respondents (n=2,681)
Male	51.1%	51.7%
Female	48.9%	48.3%
<b>Race/Ethnicity</b>		
Asian	1.1%	1.2%
African-American/Black	2.5%	1.9%
Hispanic	18.5%	17.7%
Native Hawaiian/Pacific Islander	0.1%	0.2%
Native American/Alaska Native	3.3%	2.8%
White	73.7%	75.6%
Other or Unknown	0.7%%	0.7%
<b>Age</b>		
1 to 4 years of age	26.2%	25.6%
5 to 9 years of age	28.9%	30.2%
10 to 14 years of age	25.4%	26.4%
15 and over	19.6%	17.8%

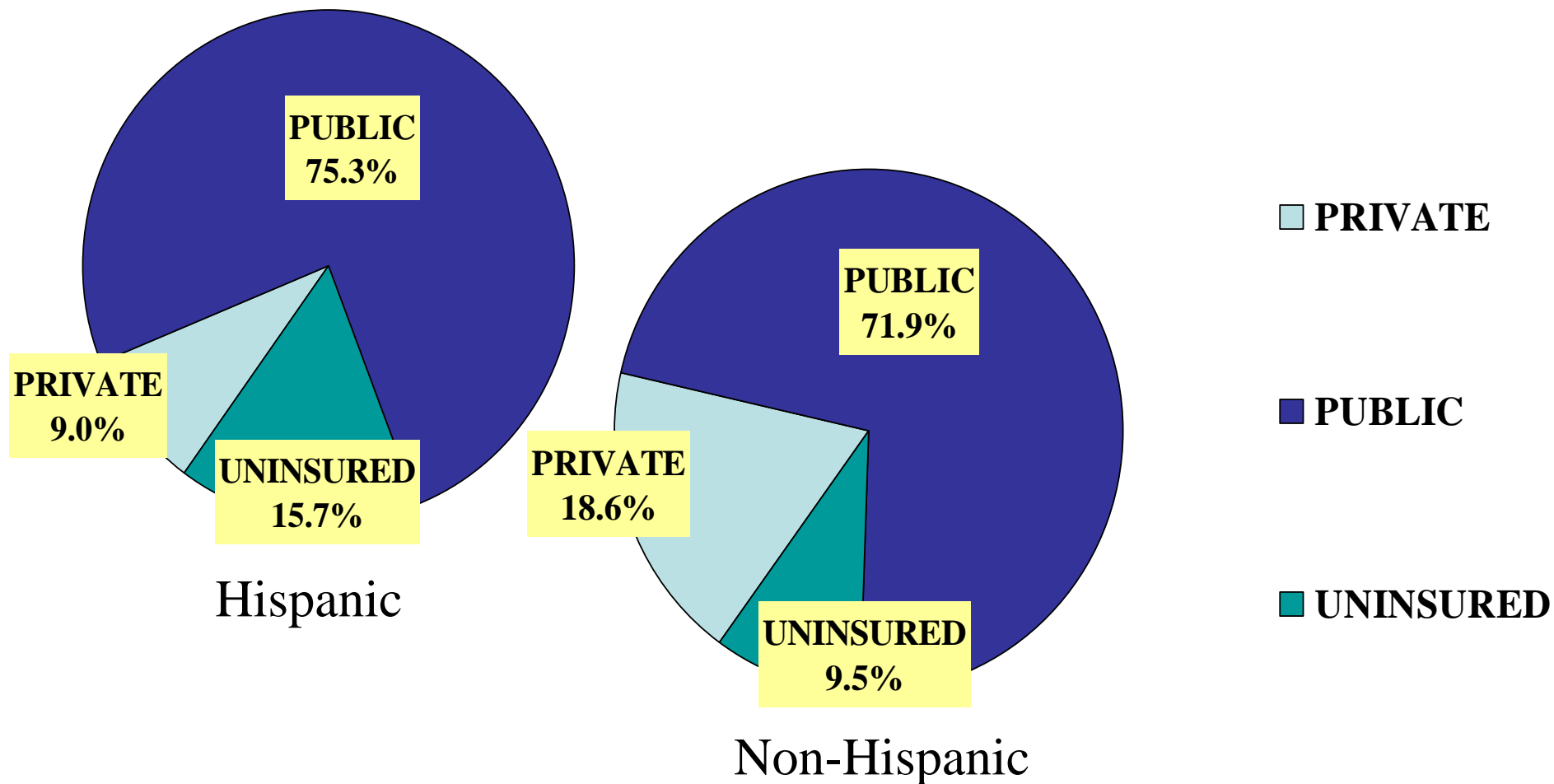
# Nearly 11% of surveyed families had uninsured children.



N=2,649 (weighted 98.7% of total population)

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# A Higher Percentage of Hispanic Children were Uninsured.

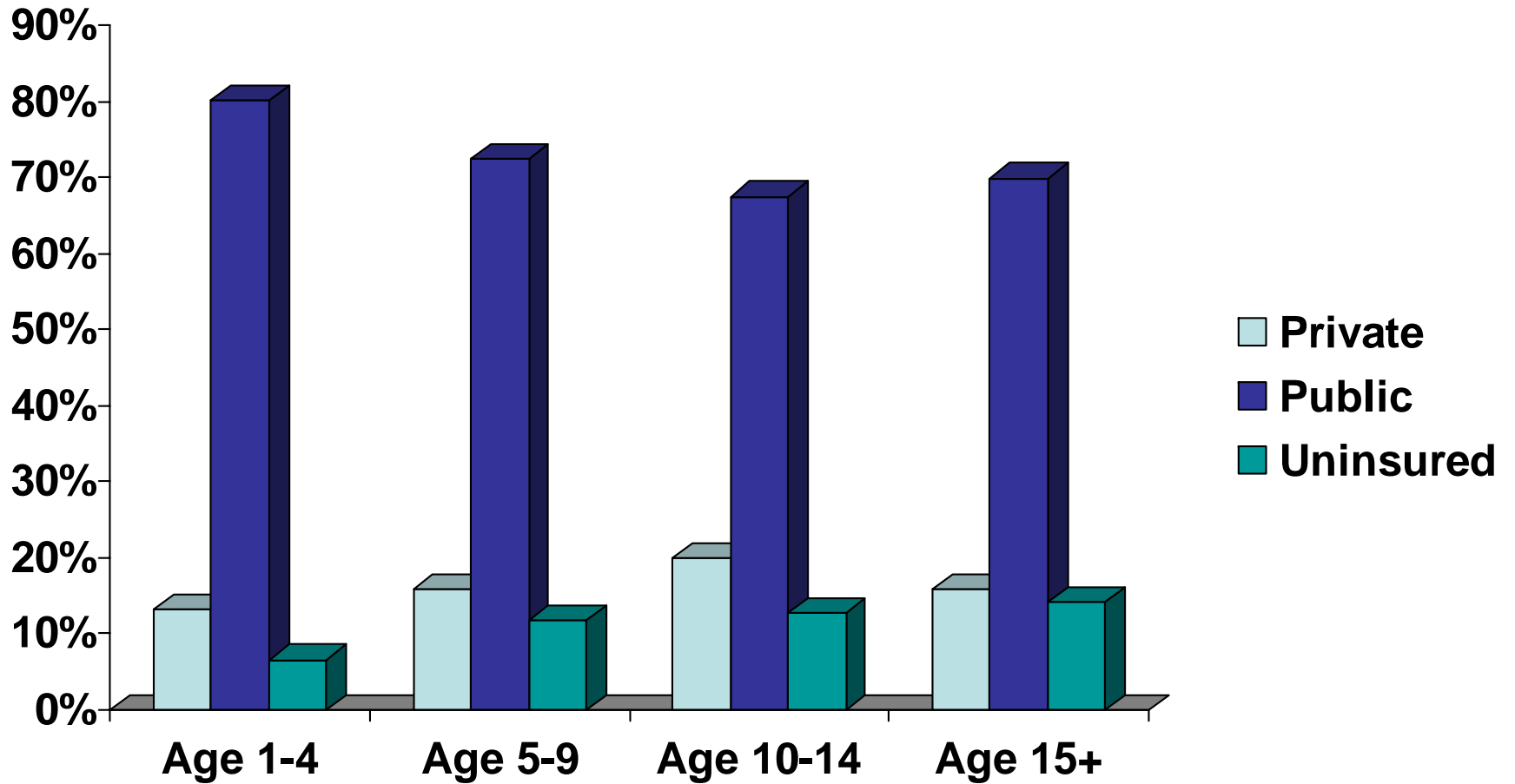


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N=2593

p<0.0001

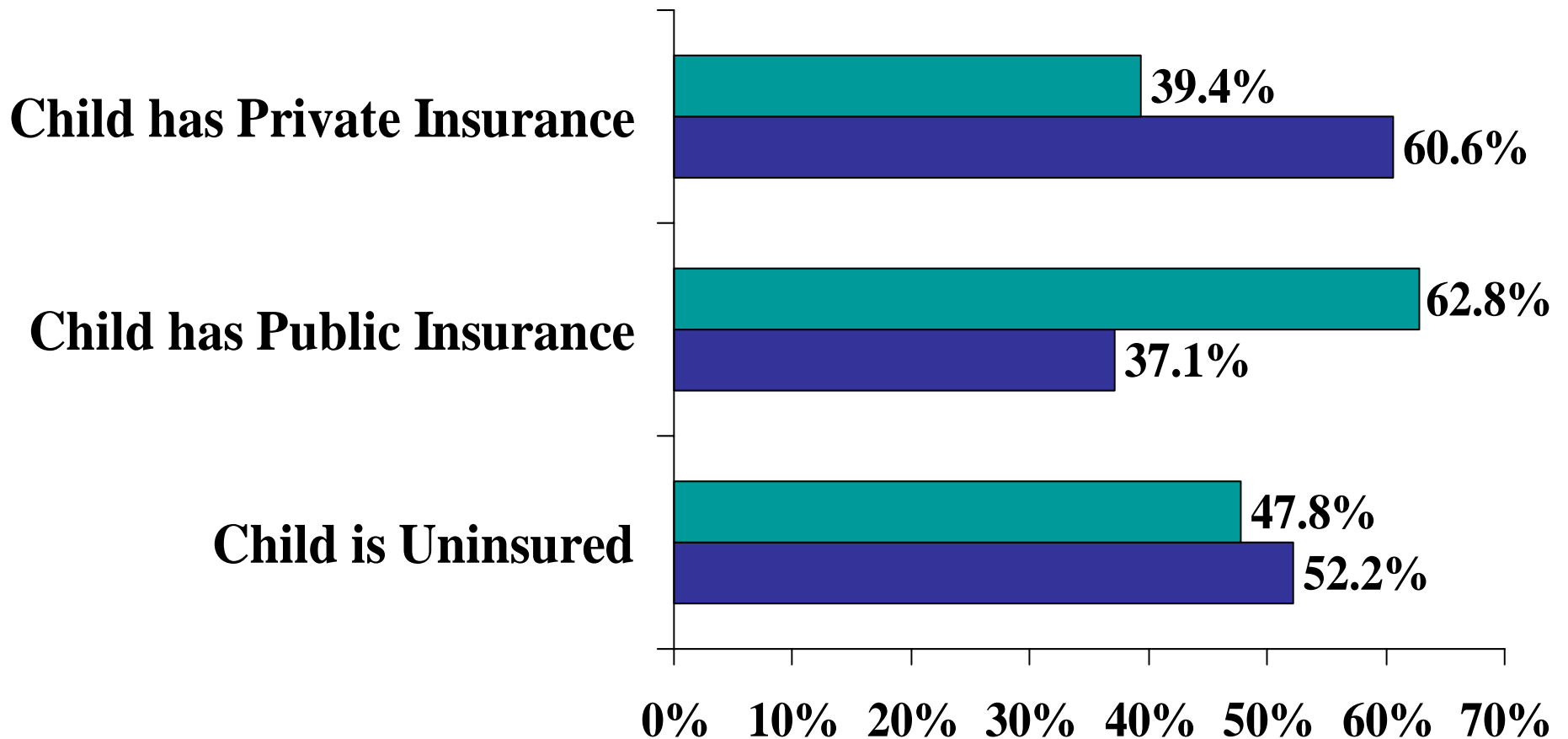
# A Higher Percentage of Older Children are Uninsured.



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Unweighted N=2649  
 $p < 0.0001$

# Over 50% of uninsured children have employed parents.

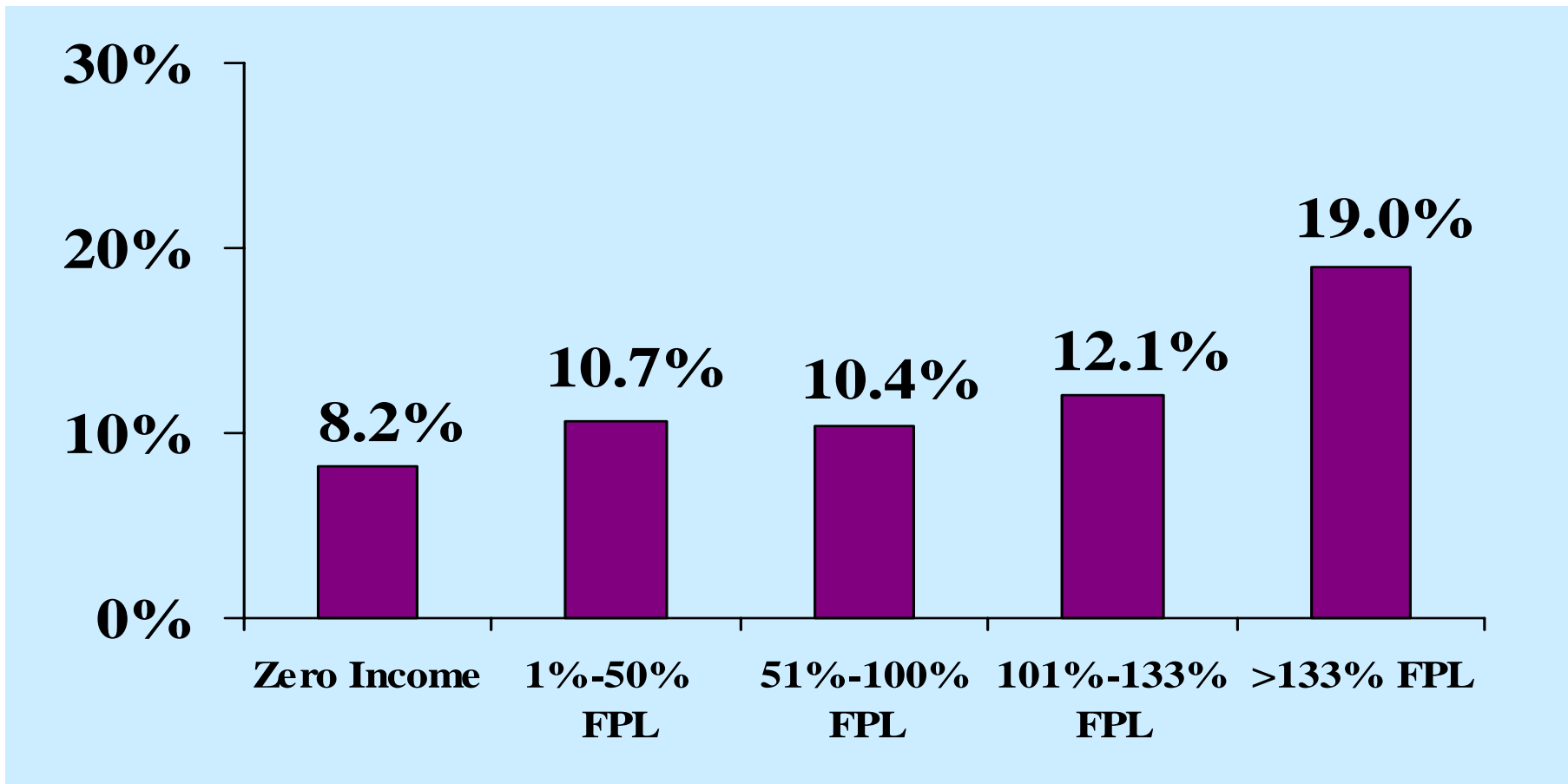


N=2590  
p<0.0001

■ Employed or Self-Employed ■ Not Currently Employed

Preliminary Results – Do not cite or reproduce without consent

# As Household Incomes Reached 185% Federal Poverty Level (FPL), a Higher Percentage of Children were Uninsured.

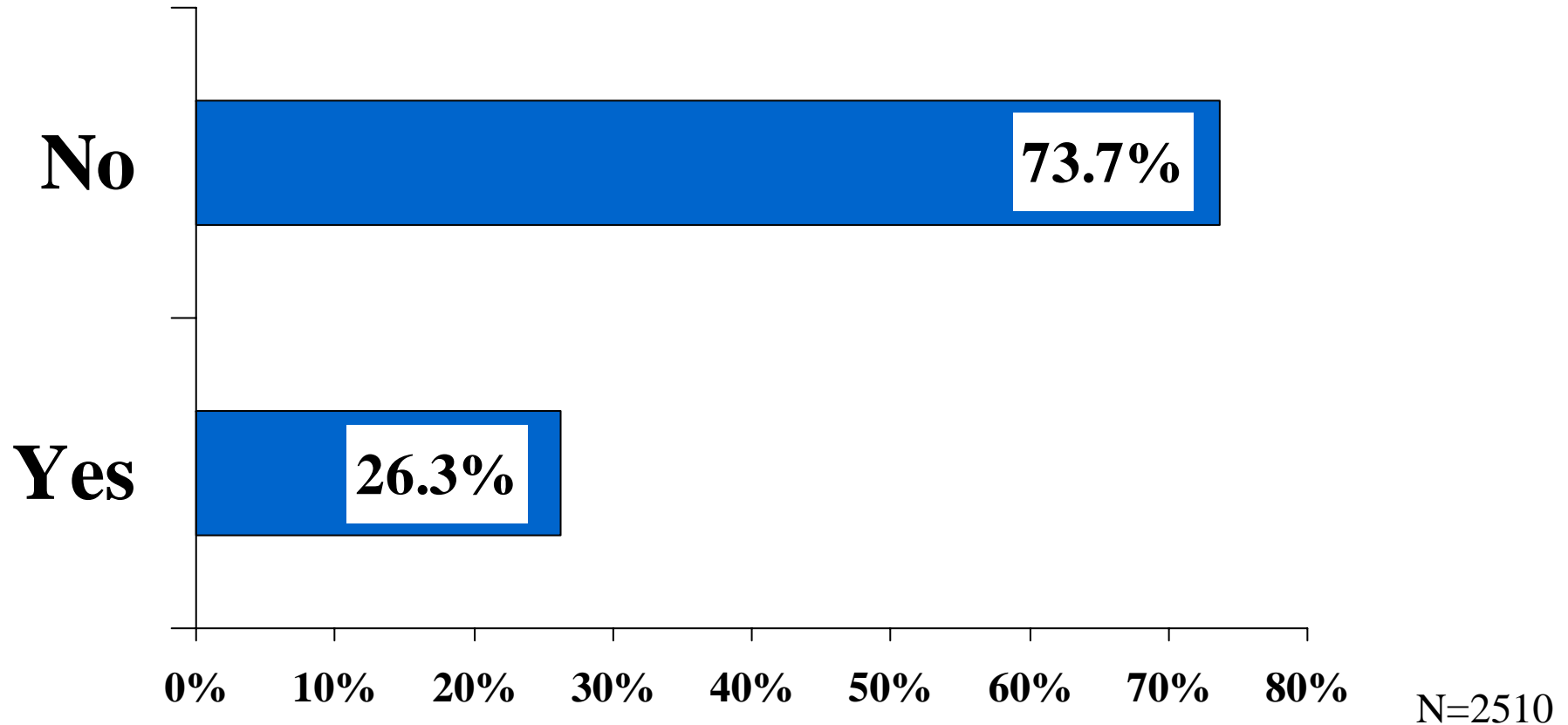


**Percent of Uninsured Children in Each Household Income Bracket**

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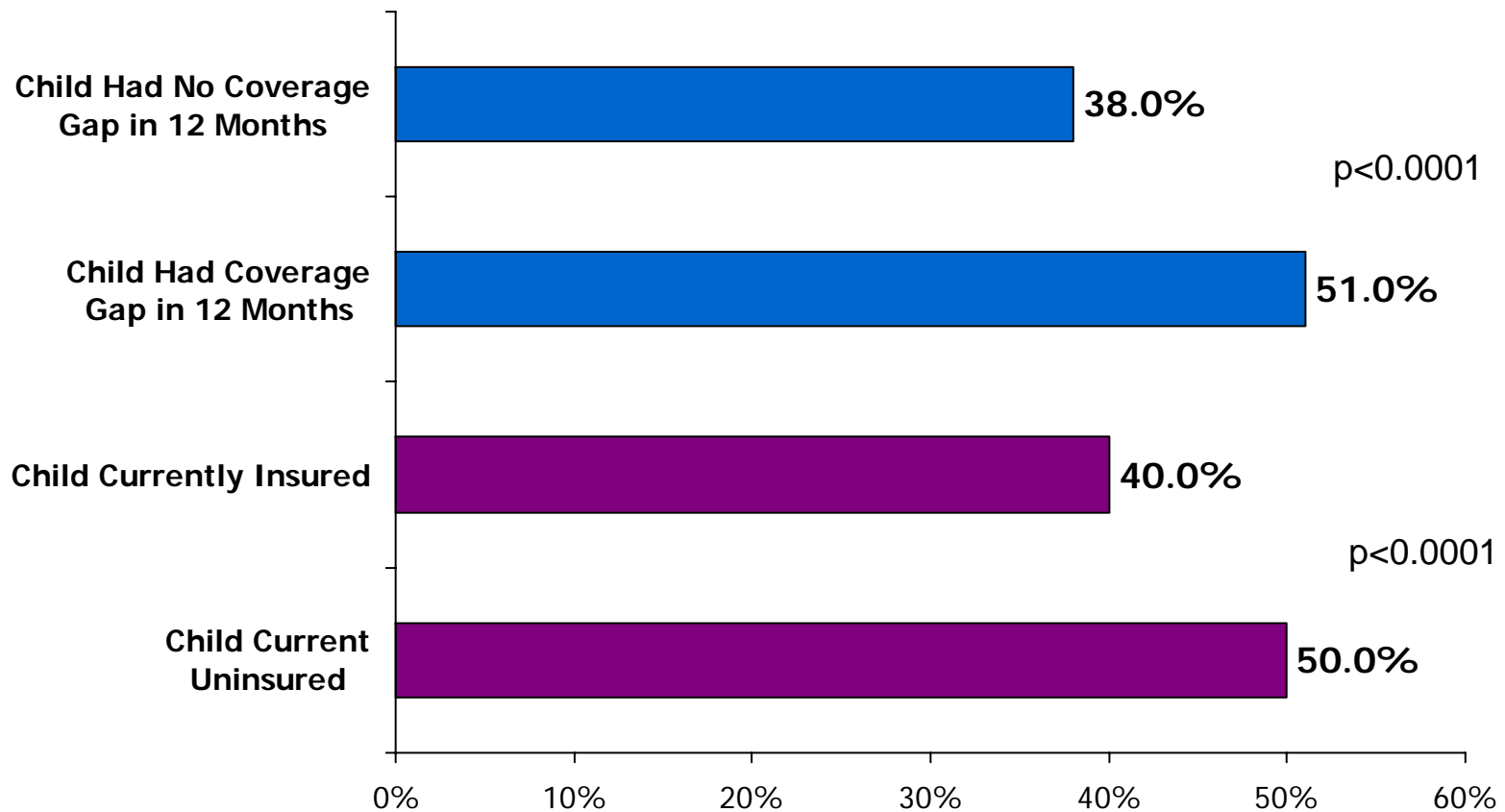
# One-Quarter of the children had insurance coverage gaps.

“At any time in the last 12 months, was your child without health insurance?”



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# A higher percentage of uninsured children and children with coverage gaps live in households with an adult who recently lost OHP.



**Percent reporting adult in household recently lost OHP coverage.**

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# Children living in a household with an adult who lost OHP coverage had a higher likelihood of being uninsured.

	<b>CRUDE ODDS RATIOS</b> Odds of Child Being Currently Uninsured N=2197 OR (95% CI)	<b>*ADJUSTED ODDS RATIOS</b> Odds of Child Being Currently Uninsured N=2197 OR (95% CI)
<b>MAIN PREDICTOR VARIABLE:</b>		
<b>No Adults in the Household Lost OHP</b>	1.0	1.0
<b>At Least One Adult in the Household Lost OHP</b>	1.40 (1.01, 1.96)	1.44 (1.02, 2.04)



**\*Adjusting for age, ethnicity, parental employment, and household income.**

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# Children living in a household with an adult who lost OHP coverage had a higher likelihood of experiencing a gap in insurance coverage.

	<b>CRUDE ODDS RATIOS</b> Odds of Child Experiencing a Coverage Gap in Past 12-Months N=2105 OR (95% CI)	<b>*ADJUSTED ODDS RATIOS</b> Odds of Child Experiencing a Coverage Gap in Past 12-Months N=2105 OR (95% CI)
<b>MAIN PREDICTOR VARIABLE:</b>		
<b>No Adults in the Household Lost OHP</b>	1.0	1.0
<b>At Least One Adult in the Household Lost OHP</b>	1.69 (1.30, 2.19)	1.79 (1.36, 2.36)



\*Adjusting for age, ethnicity, parental employment, and household income.

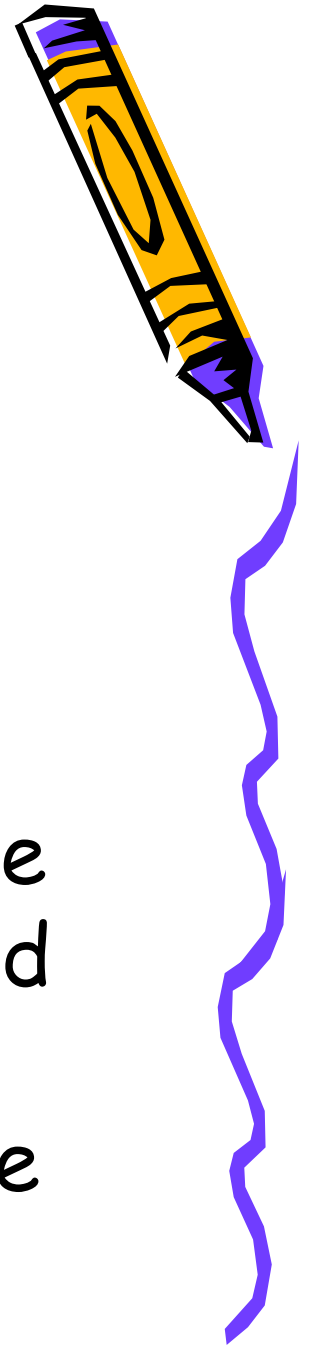
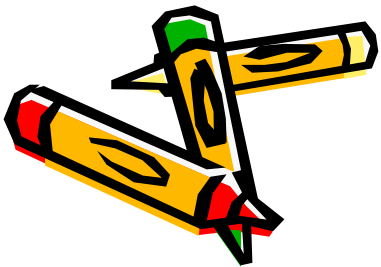


# What Did Parents Tell Us?

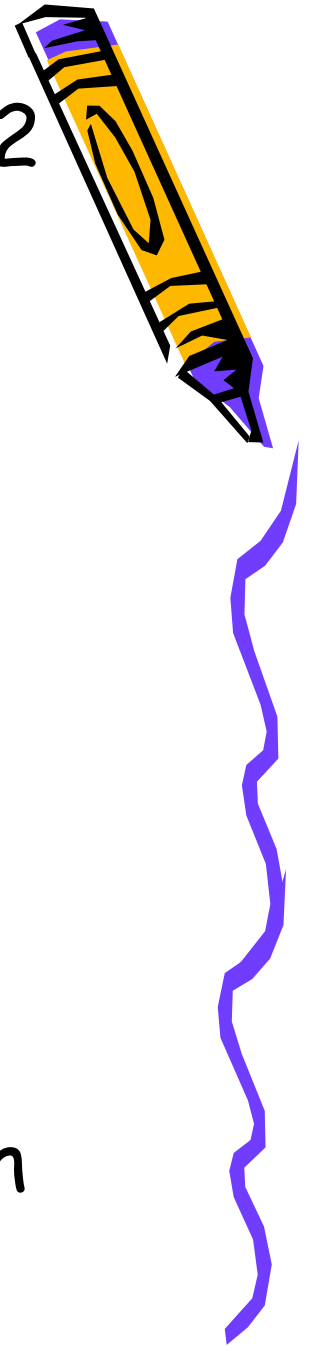


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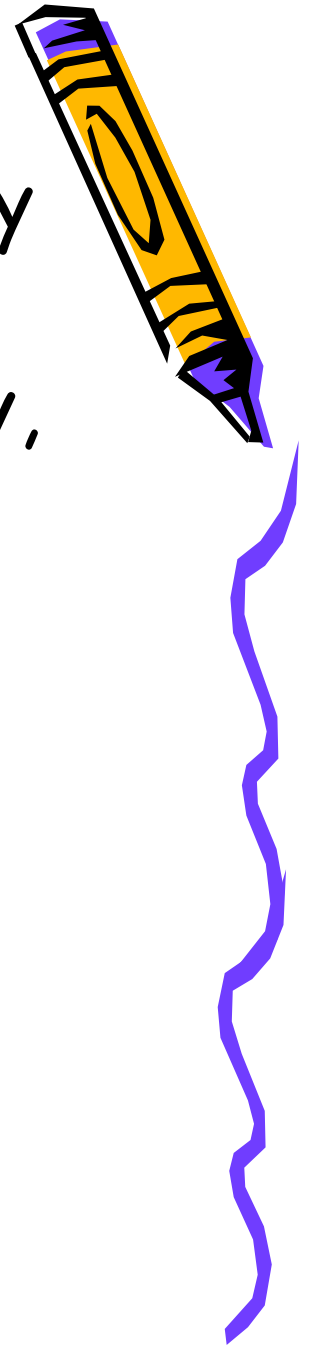
"The reason we have no insurance is that I was supposed to pay premiums and never received a bill and so they took health insurance away from my whole family. When I found all this out I called my welfare office to see what I was to do, and they said I needed to talk to the premiums office but they were not able to give me the phone number."



"OHP cancelled my coverage at 2 months post partum (an inconvenience in itself) and also cancelled my children without notice. (the notice of cancellation only had my name on it). This insurance (OHP) years ago was great. But recently has become much more complicated and unfriendly. Thank you so much for being a group of people who still care about children."



"The OHP has been great for my family. I have been very grateful for it. Unfortunately, due to stress and illness, I missed 2 premium payments unknowingly so I lost my insurance. My son also was dropped...The stress is incredible and there's never enough time."



# Study Limitations

- **Analysis is based on self-reported information from mail-return data from 31% of the eligible sample population.**
- **Survey respondents may have higher rates of uninsurance compared with the general food stamp population.**
- **This is a preliminary cross-sectional analysis and associations cannot be proven causal.**



# Conclusions

- **More than 1 in 10 children in Oregon's food stamp program have no health insurance coverage.**
- **1 in 4 children in Oregon's food stamp program had a gap in insurance coverage during the past year.**

**Low-income children remain uninsured despite being eligible for public and private health insurance options.**



**Children in households with adults losing health insurance coverage have a higher likelihood of being uninsured.**

# **States need to be aware of the impact on children when adults in their household lose coverage.**



**As Medicaid programs implement changes for adults, it is critical to keep parents informed about continued eligibility and benefits for children.**



**Programs designed to expand coverage for children need to also focus on providing stable coverage for adults.**

**(Photos from OHSU public website)**

# In Closing, The Words of One Parent...



"I hope that people "in charge" in the state of Oregon can get this all figured out for the health and safety of our children -- they are our future -- please help all of them to survive until then."

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# ACKNOWLEDGEMENTS



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