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**Analysis of a Population-Based Dataset to Identify Characteristics of Vulnerability:
Florida Children with Inadequate Health Insurance Coverage**

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Abstract

Approximately 47 million Americans, including 9 million children, do not have health insurance coverage. A concern is the number of people who also experience a gap in health insurance coverage in a 12 month period since lack of consistent health insurance coverage affects the ability to effectively access health care. A representative, population-based dataset, the 2003 National Survey of Children's Health (NSCH), was analyzed to identify risk factors associated with Florida children with inadequate health insurance coverage through logistic regression with weighted samples. The dependent variable was inadequate coverage; inadequate coverage was defined as either no health insurance or a gap in coverage during a 12 month period. Using the Aday and Andersen Access to Medical Care Model, the risk of having inadequate coverage was examined in relation to predisposing, enabling, and need factors. Approximately 20.4% of Florida children experienced inadequate health insurance coverage in a 12 month period. The study identified risk factors associated with Florida children who were more vulnerable to inadequate health insurance coverage and discussed policy factors to improve coverage. The analysis can be used to support evidence-based, state-specific health policy. Nurse researchers can replicate the study for other states through similar analyses of the free, population-based health dataset and contribute to state-specific health policy initiatives.

Keywords: Community health nursing, health services administration, epidemiology, methods, risk factors, children's health insurance

**Analysis of a Population-Based Dataset to Identify Characteristics of Vulnerability:
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Introduction

A major focus during the 2008 election year and a primary issue in the current health care reform controversy is the growing numbers of Americans without health insurance.^{1,2} Approximately 47 million Americans, or 15.8 percent of the US population, do not have health insurance, representing a 22 percent increase since 2000.³ Reasons for this increase include a decrease in health insurance benefits offered by employers and a growing number of jobs without health insurance benefits, resulting in families unable to purchase expensive health insurance premiums.⁴ Approximately 9 million children, or 11.4 percent, do not have health insurance.³ The number and percent of children who were uninsured had been steadily declining through the 1990s until 2004; there has been an increase in both 2005 and 2006.⁵

Children lacking health insurance coverage are at increased risk for not being able to access needed health care services.⁶⁻⁸ Children who also have periods without health insurance coverage (or a gap in coverage) are at increased risk for not having a regular source of care, decreased access to care, and delayed care compared to children with full, uninterrupted coverage.^{9,10} Children with special health care needs (CSHCN), defined as those children who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally,¹¹ are at even greater risk for experiencing harmful effects from lack of insurance, due to their greater needs for health services. Inconsistent coverage for CSHCN has been associated with delayed and decreased access to care.¹² Parents of CSHCN have less full-time employment and their children are less likely to have employer-sponsored insurance than other children.¹³

Inadequate health insurance coverage raises additional concerns regarding children's access to health care and continuity of care. Accessibility to a consistent health care provider is one of the key components in the concept of a medical home as defined by the American Academy of Pediatrics; a medical home is defined as the establishment of an ongoing source of care that includes accessibility, continuity, comprehensiveness, a family-centered approach, coordination, compassionate, and culturally effective services.¹⁴

Access and use of a medical home have been associated with better health outcomes at both individual and population-level analyses, decreased costs of care, and less disparities in health between disadvantaged and advantaged groups.^{15,16} A goal of Healthy People 2010 is to increase the proportion of persons who have a specific source of ongoing health care.¹⁷ Children without adequate and uninterrupted health insurance coverage are placed in a vulnerable position by our society. Previous state-level studies have focused on ranking of states regarding specific indicators, such as uninsurance.¹⁸ These descriptive studies showed a high level of uninsurance in many states.

In this study, data from a population-based health dataset, the 2003 National Survey of Children's Health (NSCH), were analyzed through a multivariate approach to determine which Florida children were at risk for not only lack of health insurance, but also gaps in health insurance coverage. The aim of the study was to identify characteristics of a vulnerable group of children in Florida who experienced both lack of health insurance and gaps in coverage over a 12 month period, representing inadequate health insurance. This study goes beyond current literature which reports the prevalence of the problem since this study describes characteristics of vulnerability in a specific state.

The overall goal of this study was to analyze and interpret data to guide the development evidence-based health policy for a specific state. Nurse researchers in other states could replicate this study and examine the same issue to support state-specific, data-driven health policy initiatives.

Methods

Data

The NSCH is a public access dataset from a nationwide survey conducted by National Center for Health Statistics at the Centers for Disease Control and Prevention and funded and directed by the Maternal Child Health Bureau of Health Resources and Services Administration. The dataset includes weighted, representative sampling for the nation and individual states. The dataset provides information on various physical, emotional, and behavioral child health indicators and is available for free from government and government-sponsored websites. A university-based group contracted by the government sponsors the following website that includes information on the child health surveys, free access to various surveys, and the ability to research specific questions for frequencies and selected cross tabulations: <http://www.nschdata.org>. The NSCH sample consists of non-institutionalized children ages birth through 17 years of age (unweighted US n = 102,353; weighted US n = 72,736,965).¹⁸ The Florida sample was used for this study (unweighted Florida n = 2,116; weighted Florida n = 3,907,632).¹⁹

The data for these children were weighted to be representative of the population of children in Florida. Each sampled child from a completed interview is assigned a sampling weight and the final, adjusted weight is computed so that the sum of the weights equals the number of children in the state, as determined from the July 2003 Census Bureau estimates and files from Census 2000.¹⁹

Details about the dataset were published in previous articles.^{20,21} Approval was obtained from Florida State University Human Subjects Committee.

Conceptual Framework and Study Variables

The study design was based on the Aday and Andersen Access to Medical Care model.²² This seminal model has often been used in public health research to

study selected access to health care issues since its conceptualization 35 years ago. The dependent, or outcome, variable was lack of health insurance or a gap in coverage in the past 12 months. The questions used to define this variable were “ S3Q01: Does [child] have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicaid?” and “S3Q04: [During the past 12 months/Since [his/her] birth] was there any time when [he/she] was not covered by any health insurance?” and “S3Q05: [During the past 12 months/Since [his/her] birth has [he/she] had health coverage?” Lack of health insurance or a gap in coverage reflected inadequate health insurance coverage. The gold standard regarding coverage was the opposite condition, i.e., having uninterrupted coverage in a 12 month period.

The independent variables for the study were selected based on the three components in the Access to Medical Care model: predisposing, enabling, and need. The predisposing component includes variables that describe characteristics that existed prior to the onset of a condition, i.e., age, gender, race/ethnicity, religion, past illness, marital status, family structure, and values concerning health and illness; the enabling component describes the means and resources individuals and families have available to facilitate the use of services, i.e., income, insurance coverage, type and access to a regular source of care, and region of the country; and the need component refers to illness level, either perceived by the individual or evaluated by a health care professional.²¹

In addition, individual variables were selected from the survey that reflected contemporary concerns noted in the literature, such as if the parents were born in the US, primary language at home, regular employment by an adult in the household, parents' health insurance coverage, and if the child has access to a medical home. The survey dataset included specific information pertaining to race (such as Black) and ethnicity (Hispanic).

For the purposes of this analysis, children were classified according to the income of their household. Children in households with incomes below the Federal poverty level for 2003 were classified as below poverty level. Children in households with incomes above the poverty level income but below 200% of the poverty level income were classified as between poverty level and 200% of poverty level income. Likewise children were classified as between 200% and 399% of poverty level income and 400% of poverty level income and above. For example, the Federal poverty level income for a family of 4 in 2003 was \$18,400. Children in households below this income were classified as below poverty level. A household income of 2 times \$18,400 is \$36,800 and is referred to as 200% of poverty level income. Children in households with incomes between \$18,400 and \$36,800 were classified as between poverty level and 200% of poverty level. Information on federal poverty levels can be accessed at: <http://aspe.hhs.gov/poverty/03poverty.htm>.

The medical home variable was a derived variable developed by the Child and Adolescent Health Initiative and based on the American Academy of Pediatrics definition of medical home.²³ A derived variable implies that a group of variables from the survey were combined to reflect the attributes of a specific condition, i.e. medical home. Two variables reflecting chronic conditions and special needs indicator were developed in collaboration with Newacheck and used in a previous study.²⁴ The independent variables of the study in relation to the three major components of the Access to Medical Care model are listed in Table 1.

Statistical Analyses

SUDAAN version 9.0.1²⁵ was used for the regression analysis to account for the complex weighted sampling survey design. SAS software version 9.1²⁶ was used to perform correlation functions. Scaled or normalized weights were used for the SAS correlation functions such that the sum of the scaled weights was equal to the unweighted sample size, and the scaled weights were proportional to the complex sample weights. Regression analysis was used to assess the independent association of the independent variables with the dependent variable. Logistic regression was used to estimate adjusted odds ratios (AOR) and 95% confidence intervals (CI). Multicollinearity among all of the variables was assessed by the nonparametric rank correlation test Kendall's Tau b with scaled weights. Values greater than 0.30 were considered evidence of possible multicollinearity; this value was recommended and is based on the expert opinion of epidemiologists who developed the dataset.

A stepwise regression analysis was conducted to examine possible confounding issues pertaining to the Hispanic variable. The analysis first eliminated the variable 'primary language in household not English' from the full model; the second analysis eliminated both 'primary language in household not English' and 'neither parent has health insurance' variables. In the third analysis, four variables were eliminated: 'primary language in the household not English', 'neither parent has health insurance', 'parents have less than high school education', and 'parents have high school education, no college'. The final analysis eliminated the previous four variables and the four poverty level variables.

Results

An estimated 785,617 (20.4%) of Florida's children experienced inadequate health insurance coverage in 2003 (Table 2), defined as no health insurance or a gap in coverage the past 12 months. Over 14% of children in Florida had a recent period without health insurance, while another 6.3% had no coverage in the year before the interview. The proportion of children having inadequate coverage varied by subgroups in the population as defined by the independent variables. Table 2 indicates that about 19% of the children aged 0 to 12 years lacked continuous health insurance coverage while the percentage for children

ages 13 to 17 with gaps in coverage increased to 23.5%. Many of the independent variables were associated with high percentages of inadequate health insurance coverage. For example, the highest percentage, 54.5%, was associated with neither parent having health insurance. Other characteristics associated with high percentages of inadequate coverage were: highest education in household less than a high school education (43.2%), primary language used in household not English (41.5%), and no one in the household employed full time (31.6%).

Table 3 presents the prevalence of Florida children with inadequate health insurance coverage by each independent variable. The highest age group of children experiencing inadequate coverage was the 5 – 12 year olds (42.6%). Higher percentages were noted if the child did not have a medical home (68.6%), neither parent had health insurance (49.1%), and if a child was not from a 2-parent family (42.8%). Over 60% of the children with inadequate health insurance were from families at less than 200% of the federal poverty level.

Results of the multivariate logistic regression analysis are presented in Table 4. Variations between unadjusted and adjusted odds ratios were noted for selected variables, especially Hispanic. The unadjusted odds ratio for Hispanic is 2.11 and is statistically significant with a 95% confidence interval of 1.59 to 2.81. In comparison, the adjusted odds ratio is 0.73 and is not statistically significant with a 95% confidence interval of 0.42 to 1.28. Evidently, the association between Hispanic ethnicity and health insurance gaps is influenced by associations between Hispanic ethnicity and some of the other variables. When this is adjusted for, the independent association between Hispanic ethnicity and health insurance gaps is not significant.

Results of the stepwise regression analysis clarified the relationship between Hispanic and selected variables. The analysis first eliminated the variable 'primary language in household not English' with no notable changes in the results. Next, when both 'primary language in household not English' and 'neither parent has health insurance' variables were eliminated, significance was noted for the variable 'parents have less than high school education' and borderline significance was found for two variables: Hispanic and 'child did not have a medical home'. The elimination of four variables in the third analysis, 'primary language in the household not English', 'neither parent has health insurance', 'parents have less than high school education', and 'parents have high school education, no college', resulted in Hispanic ethnicity being significant with an AOR of 1.60 (95% CI= 1.15, 2.22). Borderline significance was noted with 'child did not have a medical home' (AOR =1.48, 95% CI= 1.06, 2.07). The AOR for poverty increased with each stepwise regression. When the previous variables and all four of the poverty level variables were eliminated, significance was noted among Hispanic, 'not a two parent family', and 'child did not have a medical home'. Borderline significance was noted for 'child had a chronic moderate or severe condition'. The results of the stepwise regression analysis suggest

confounding influence between Hispanic and the following variables: 'primary language in the household not English', 'neither parent has health insurance', 'parents have less than high school education', 'parents have high school education, no college', and all levels of poverty (i.e., family below federal poverty level, family 100% to 199% poverty level, family 200% to 399% poverty level, and poverty level unknown). In summary, after adjusting for these potentially confounding variables listed above, Hispanic ethnicity was not significantly associated with higher odds of inadequate health insurance coverage in Florida.

Findings of the regression analysis based on the Aday and Andersen Access to Medical Care model indicated that the following Florida children were significantly more vulnerable to experiencing inadequate health insurance coverage: primary language in household not English, family below federal poverty level, family 100% to 199% federal poverty level, family 200% to 399% federal poverty level, family poverty level unknown, and neither parent has health insurance. Vulnerability to inadequate health insurance coverage was not noted by age group, gender of child, race, ethnicity, family structure, education level in household, employment status of parents, child's access to medical home, presence of a moderate or severe chronic condition, and presence of a special health care need.

Results of Kendall's correlation noted results above 0.30 among the following sets of variables: primary language not English and Hispanic (0.68); poverty and education (0.45); parents do not have health insurance and primary language not English (0.33); and indicator of a chronic condition and presence of moderate or severe chronic condition (0.41). The relatively high correlations between these variables indicated there may be some loss of statistical power due to multicollinearity, but the analytic relevance of retaining these variables in the model justified the potential loss of statistical power.

Discussion

Slightly over 20% of Florida children experienced inadequate health insurance coverage in 2003, based on this analysis of the 2003 National Survey of Children's Health. The outcome variable of inadequate coverage included children without or gaps in health insurance coverage in the past 12 months. The prevalence rate of 20% represented a notable number of children considering the availability of health insurance programs for lower income families in Florida, including families who qualify for government assistance. This finding is consistent with previously released data that reported 20.2% of Florida children lacked consistent health insurance coverage in the past year compared to 14.9% nationally.¹⁸

The significant findings of this study were associated with selected predisposing and enabling factors of the Aday and Andersen model. Specifically, Florida children at-risk were from families where the primary language at home was not

English, families living at federal poverty levels below 400%, and one or both parents did not have any health insurance coverage.

Florida has experienced a 60.6% change in the number of foreign-born people between 1990 and 2000, with an increase to 16.7% of foreign-born residents in 2000; more than two-thirds, or 77.8%, of all foreign-born residents in Florida are from Latin America.³ This study did not find significance based on Hispanic ethnicity with the Aday and Andersen model, but did identify confounding variables that significantly influenced Hispanic in a stepwise regression analysis. Thus, it is important to continue to assess the relationship between ethnicity and confounding variables, such as primary language used at home, parents' health insurance status, household education level, and level of poverty. For example, Florida has a sizable Haitian population and this group may not be reported in population-based datasets since a specific classification choice is not available to Haitians. But Haitians may include a number of families who speak Haitian-Creole at home instead of English, whose parents do have health insurance, and have annual incomes at lower federal poverty levels. As noted by Krieger, continued dialogue related to race and ethnic classifications in public health is needed to "develop informed analyses and policy recommendations relevant to understanding and altering societal distributions and determinants of health" (page 1688).²⁷ Continued research is needed to identify socioeconomic characteristics that contribute to the vulnerabilities of groups in our society instead of a general race/ethnicity classification or label.

The percent of Floridians living below poverty level in 2003 was 13%, resulting in a ranking of 21 in the nation.²⁸ Of the 21 states with higher percentages of people living below the poverty level, 13 or 62% could be classified as southern states. Florida ranked 14 in the percent of children under 18 years below the poverty level in 2003, tying with California at 19%.²⁹ Ten of the 13 states, or 77%, with higher percentages of children under 18 living in poverty were southern states. In 2006, Florida ranked 24 in median income³⁰ and southern households continued have the lowest median incomes in the nation.³¹ Regional disparity in child health outcomes were noted in the Deep South compared to other areas of the US, including percent of children living in poverty and percent of children in families where parents lack full-time employment.³²

A substantial number of Floridians are employed in the service industry, occupations that are associated with a lack of health insurance benefits. Florida ranked fifth in the nation for the percent of civilians employed full or part time in service occupations in 2004, with a weighted average of 18.2%.³³ Using a 3-year average from 2004-2006, 20.3% of Floridians did not have health care coverage and only two other states, New Mexico and Texas, had higher percentages.

Limitations of the study include the respondents' correct understanding of the questions, especially questions about health status and needs, and correct responses to the questions. Health conditions reported by the parents or

guardians were not confirmed through a review of health care records or assessment of the child. Hispanic ethnicity did not take into account cultural variations among groups who would identify as Hispanic. A more detailed study of cultural might find variations among Hispanic subgroups, especially the effect of acculturation on access to health care including health insurance coverage.

The Aday and Andersen model is beneficial in discussing the importance of the study's major findings from a health policy perspective. The enabling factors of the model are considered more changeable from a policy perspective.³⁴ More enabling independent variables were significant in this study than the other two factors in model, predisposing and need. Five of the 7 enabling independent variables (71%) were significant compared to 1 of 9 (11%) of the variables classified as predisposing. None of the independent variables classified as need was significant. Policy should focus on the significant variables that can be changed to improve access to health care, i.e., poverty level and parents' lack of health insurance.

Universal health care coverage is needed for all people residing in the US regardless of employment status, occupation, socioeconomic class, documentation of citizenship, and family structure. The current costs associated with health insurance coverage prevent many uninsured middle-income Americans from purchasing health care policies.³⁵ There are noted variations among states in social programs such as Medicaid and the State Children's Health Insurance Program (SCHIP), with Florida scoring low in a ten-variable index of administrative responsiveness to the disadvantaged.³⁶ Universal coverage could eliminate the variations in state coverage.

The Access to Medical Care Model can also identify strengths in current health policy and program implementation. Positive findings include that Florida children with a reported moderate or severe health condition, a possible special health care need, and children without a medical home did not significantly experience higher levels of discontinuous health insurance coverage. These findings can be viewed as an asset since the results suggest the most vulnerable children, children with special health care needs, are not experiencing disruption in health insurance coverage that could negatively affect their overall access to care. Additional research is needed with a population-based data set that focuses on children with chronic conditions, such as the National Survey of Children with Special Health Care Needs, to further study access to health care among a more vulnerable group of children and to confirm these findings.

A subsequent NSCH was recently released and available for analysis. This survey covered the period from April, 2007 to July, 2008. A similar study can be conducted with this latest dataset to examine differences between the two time periods. The latest survey does not contain questions about the parents' health insurance status, though, so an exact replication of this study is not possible. Future survey development should aim to keep the same set of variables to

measure any possible changes that could be the result of changes in health policy.

While the dataset can identify characteristics of Florida children with inadequate health insurance, additional research is needed to study issues that have emerged since completion of the NSCH. For example, current economic conditions are leading to unemployment with subsequent loss of health insurance for families. Future research is needed to ascertain if current government programs are adequate in providing newly uninsured families with coverage.

In summary, further macro-level policy approaches are necessary to improve overall health outcomes. Woolf noted that while income is a significant determinant of health and a powerful predictor of health status, three current phenomena impacting income require the attention of the health care community: increasing poverty rates, decreasing household incomes, and widening income inequity.³⁷ Until the US is committed to thoroughly address interacting social determinants of health, any single measure will result in a temporary solution and contribute to the further piecemeal approach in resolving our major problems. While it is important to advocate for improved access to services for children, profound measures are needed to improve education and employment opportunities and end poverty in one of the wealthiest nations in the world. We need to proactively critique, as Sheldon Danzinger challenged us to do in his paper on child poverty, why Americans tolerate a high level of poverty and the devastating consequences.³⁸

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Table 1
Independent Variables in Relation to Aday and Andersen Access to Medical Care Model

<i>Predisposing Factors</i>	<p>Age: <1-4 years; 5-12 years; 13-17 years of age</p> <p>Ethnicity: Hispanic and non-Hispanic</p> <p>Primary language spoken at home: English or not English</p> <p>Race: Black, not Black (includes unknown)</p> <p>Family structure: Two parent (two biological parents or a biological/step parent) and Single parent</p> <p>Education level of highest member adult household: < high school education; high school; and above high school</p> <p>Gender: Female, Male</p>
<i>Enabling Factors</i>	<p>Poverty status: below federal poverty level; 100-199% poverty level; 200-399% poverty level; 400% and above; unknown poverty level</p> <p>Health insurance status of parents: one or both parents having any kind of health insurance coverage</p>

	<p>Employment in household: One or more persons in household employed 50 out of last 53 weeks</p> <p>Medical home: Derived variable developed by the Child and Adolescent Health Measurement Initiative</p>
<i>Need Factors</i>	<p>Presence of a moderate or severe chronic condition: Parent or guardian reported that the child had at least one of the acute and chronic conditions listed in subdomain 3 of the 2003 National Survey of Children’s Health and a severity rating of moderate or severe. The conditions included learning disability, emotional, behavioral, and physical conditions.</p> <p>Presence of a special health care need: Parent or guardian reported the child needed 1 or more of the 5 indicators from the Children with Special Health Care Need Screener in subdomain 2 of the NSCH: prescription medications, special services, physical limitation, special therapy, and counseling. The special need lasted or was expected to last 12 months or longer and was due to a medical, behavioral, or other health condition</p>

Table 2
Weighted and Unweighted Frequencies of Florida Children by Health Insurance Coverage and Independent Variables

	Weighted Frequency of all Children in Florida	Weighted Frequency of Children with Inadequate Health	Weighted Percentage of Children with 95% Inadequate Health Confidence
Un-weighted Frequency			

			Insurance Coverage	Insurance Coverage
Overall	2,091	3,855,671	785,617	20.4
<i>Predisposing Factors</i>				
Child age 0 to 4	554	1,040,146	198,968	19.1
Child age 5 to 12	905	1,743,573	334,566	19.2
Child age 13 to 17	632	1,071,952	252,083	23.5
Male gender	1,038	1,966,085	405,139	20.6
Hispanic ethnicity	535	724,040	228,730	31.6
Primary language in household not English	340	504,280	209,349	41.5
Black race	282	778,468	188,924	24.3
Not a two parent family	609	1,184,010	335,866	28.4
Parents have less than high school education	109	293,357	126,855	43.2
Parents have high school education, no college	402	1,034,051	279,459	27.0
<i>Enabling Factors</i>				
Family below poverty level	252			32.4

		647,699	209,613	
Family 100% to 199% poverty level	432			31.0
		960,512	297,786	
Family 200% to 399% poverty level	603			13.0
		1,017,957	131,961	
Family poverty level unknown	197			26.7
		360,039	96,237	
Neither parent has health insurance	368			54.5
		706,531	385,372	
No one in the household was employed full time	164			31.6
		324,678	102,673	
Child did not have medical home				25.0
	1,145	2,151,597	538,929	
<i>Need Factors</i>				
Child had chronic moderate or severe condition	305			25.9
		568,652	147,331	
Child had special health care needs	367			18.2
		696,685	127,066	

Table 3
Prevalence of Florida Children with Inadequate Health Care Coverage by Independent Variables

	Estimated Number of Children with Inadequate Health Insurance	Percentage
Estimated Total Children with Inadequate		100.0%

Health Insurance Coverage	785,617
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Predisposing Factors

Child age 0 to 4	25.3%
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198,968

Child age 5 to 12	42.6%
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334,566

Child age 13 to 17	32.1%
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252,083

Male gender	51.6%
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405,139

Hispanic ethnicity	29.1%
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228,730

Primary language in household not English	26.6%
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209,349

Black race	24.0%
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188,924

Not a two parent family	42.8%
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335,866

Parents have less than high school education	16.1%
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126,855

Parents have high school education, no college	35.6%
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279,459

Enabling Factors

Family below poverty level	26.7%
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209,613

Family 100% to 199% poverty level	37.9%
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297,786

Family 200% to 399% poverty level	16.8%
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	131,961	
Family poverty level unknown		12.2%
	96,237	
Neither parent has health insurance		49.1%
	385,372	
No one in the household was employed full time		13.1%
	102,673	
Child did not have medical home		68.6%
	538,929	
<i>Need Factors</i>		
Child had chronic moderate or severe condition		18.8%
	147,331	
Child had special health care needs		16.2%
	127,066	

Table 4
Adjusted and Unadjusted Odds Ratios for Florida Children with Inadequate Health Insurance Coverage by Risk Factors

	Inadequate Health Insurance	Adjusted Odds Ratio	95% Lower Confidence Limit	95% Upper Confidence Limit	Inadequate Health Insurance	Un-Adjusted Odds Ratio	95% Confidence Limit
<i>Predisposing Factors</i>							
Child age 0 to 4	Referent						
Child age 5 to 12		1.21	0.78	1.87		1.00	
Child age 13 to 17		1.52	0.95	2.44		1.30	
Female gender	Referent						
Male gender		0.99	0.72	1.37		1.03	

Non-Hispanic ethnicity	Referent				
Hispanic ethnicity	0.73	0.42	1.28	2.11	
Primary language in household	Referent				
English					
Primary language in household not English	1.87	1.03	3.37	3.42	
Non-Black race	Referent				
Black race	1.38	0.88	2.17	1.33	
Two parent family	Referent				
Not a two parent family	1.22	0.84	1.76	1.94	
Parents have more than high school education	Referent				
Parents have less than high school education	1.71	0.88	3.30	4.32	
Parents have high school education, no college	1.25	0.84	1.84	2.10	

Table 4, continued

	Inadequate Health Insurance	Adjusted Odds Ratio	95% Lower Confidence Limit	95% Upper Confidence Limit	Inadequate Health Insurance	Un-Adjusted Odds Ratio	95% Confidence Limit
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Enabling Factors

Family 400% of poverty level or higher	Referent				
Family below poverty level	2.52	1.26	5.03	7.84	
Family 100% to 199% poverty level	3.68	2.09	6.46	7.36	
Family 200% to 399% poverty level	1.93	1.13	3.28	2.44	
Family poverty level unknown	3.45	1.72	6.89	5.98	
One or both parents had health insurance	Referent				
Neither parent has health insurance	5.75	3.96	8.36	8.33	
One or more persons in the household was employed full time	Referent				
No one in the household was employed full time	1.29	0.72	2.33	1.91	
Child had a medical home	Referent				
Child did not have medical home	1.35	0.95	1.93	2.04	
<i>Need Factors</i>					
Child did not have chronic moderate or severe condition	Referent				
Child had chronic moderate or severe condition	1.30	0.81	2.09	1.45	
Child did not have special health care needs	Referent				
Child had special health care needs	0.83	0.51	1.35	0.85	