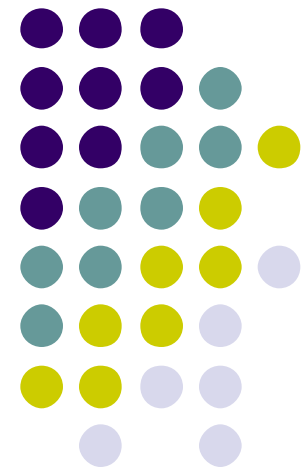# Factors Associated with Florida Children Not Having Continuous Health Insurance Coverage

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National Survey of Children's Health (NSCH): 2003-2004

- Nationally-representative study of 102,353 children
  - Adequate sampling for each state (~ 2,000)
- First national study of health of all US children in last 15 years
  - Topics included child health, quality of health care received, presence of medical home, height and weight, school performance, participation in outside activities, parental health, insurance status, community involvement and safety
- NSCH will be conducted every 4 years
- More information: Data Resource Center
  - www.nschdata.org

Background: Continuous Health Insurance Coverage

- Previous research with NSCH data: insurance coverage significantly associated with:
  - Lack of personal healthcare provider among Florida children
  - Lack of medical home among US children

Background, continued

- Key studies with different datasets have documented the lack of continuous health insurance coverage among US children
  - Discontinuous coverage is a problem in addition to lack of health insurance
    - Rhoades, JA. Health insurance status of children in America, first half 1996-2005: Estimates for the US civilian noninstitutionalized population under age 18. AHRQ Statistical Brief #131. June 2006
    - Olson, LM, Tang, SS, and Newacheck, PW. Children in the United States with discontinuous health insurance coverage. NEJM. 2005: 353(4):382-391
    - Kogan, MD, Alexander, GR, Teitelbaum, BW, Kotelchuck, JM, and Pappas, G. The effect of gaps in health insurance on continuity of a regular source of care among preschool-aged children in the United States. JAMA, Nov 1995; 274: 1429-1435.

Research Question

- What factors are associated with Florida children not having continuous health insurance coverage?

  - Dependent variable: Model 1: discontinuous health insurance coverage Model 2: discontinuous or no health insurance

    - NSCH questions ascertain gaps in coverage

    - Model 1 reference group: children with full insurance coverage (and children with no insurance excluded)

    - Model 2 reference group: children with full insurance only

Research Question, continued

- Independent variables based on :

- Aday and Andersen *Access to Medical Care* Model with two chronic condition/special needs indicators from our previous research
  - Reference: Aday LA, Andersen, R. A framework for the study of access to medical care. Health Services Research. 1974; 9:208-220.
  - Two chronic condition/special needs indicator variables developed with Paul Newacheck, DrPH

Independent Variables
Aday and Andersen *Access to Medical Care*

- **Predisposing Factors**
  - **Age**: <1-4 years; 5-12 years; 13-17 years
  - **Ethnicity**: Hispanic and non-Hispanic
    - Primary language not English
  - **Race**: Black, not Black (includes unknown)
  - **Family Structure**: Two parent (two biological parents or a biological/step parent) and Single parent
  - **Education**: < high school education; high school; and above
  - **Gender**: Female, Male

Independent Variables, continued

- **Enabling Factors**
  - **Poverty Status**: below federal poverty level; 100-199% poverty level; 200-399% poverty level; 400% and above; unknown poverty level
  - **Health Insurance Status of Parents**
  - **Employment Status of Parents**:
    - Revision to Aday and Andersen model, based on current literature
  - **Medical Home: Derived variable developed by the Child and Adolescent Health Measurement Initiative**
   - **"Gold standard" defined and supported by American Academy of Pediatrics**

Independent Variables, continued

- **Need Factors**
  - **Presence of Moderate or Severe Chronic Condition**
    - Derived variable
  - **Presence of a Special Health Care Need**
    - Derived variable

Methods

- 2003 NSCH Florida data were analyzed using bivariate and multivariate methods
  - Florida n = 2,116, ages 0-17 years
  - Logistic regression with SAS and SUDAAN
    - Weighted responses
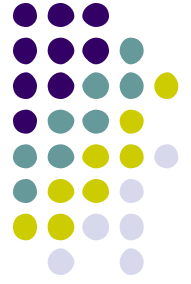
Limitations

- Assumption that respondents understood the questions and answered correctly

- Health conditions and needs were reported and not confirmed through exam or documentation

- Hispanic ethnicity classification does not account for cultural groups within classification and acculturation

Results: Prevalence

- 14.1% of Florida children (weighted) lack continuous health insurance coverage in last 12 months

Health Insurance Coverage in last 12 months	Unweighted n	Weighted n (%)
Full coverage	1,685	3,070,053 (79.6%)
Coverage with gaps	272	542,164 (14.1%)
No coverage	134	243,453 (6.3%)
Missing	25	51,962
Total	2,116	3,907,632 (100%)

Results: Adjusted Odds Ratio (OR) Predisposing Factors – Final Model

Variable	OR (95% CI)
Age less than 1 year to 4	Referent
Ages 5 to 12	1.20 (0.77 – 1.86)
Ages 13 to 17	1.52 (0.95 – 2.43)
Gender: Female	Referent
Gender: Male	0.99 (0.72 – 1.37)

Results: Adjusted Odds Ratio (OR) Predisposing Factors – Final Model

Hispanic ethnicity	0.71 (0.40 – 1.28)
Non-Hispanic ethnicity	Referent
Primary language not English	1.95 (1.03 – 3.71)*
Primary language English	Referent
Black race	1.36 (0.86 – 2.16)
Non-black race; race unknown	Referent

Results: Adjusted Odds Ratio (OR) Predisposing Factors – Final Model

Single parent family	1.30 (0.88 – 1.92)
Two parent family	Referent
Highest education level in household less than high school	1.72 (0.90 – 3.30)
Highest education level in household high school	1.25 (0.85 – 1.84)
Highest education level in household above high school	Referent

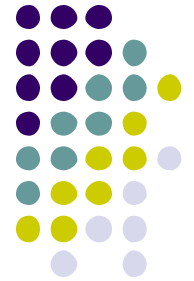# Results: Adjusted Odds Ratio (OR) Enabling Factors – Final Model

Family below poverty level	2.51 (1.26 – 4.97)*
Family 100% to 199% poverty level	3.67 (2.10 – 6.41)*
Family 200 to 399% poverty level	1.91 (1.13 – 3.25)*
Family poverty level unknown	3.50 (1.77 – 6.94)*
Family 400% poverty level or above	Referent

Results: Adjusted Odds Ratio (OR) Enabling Factors, continued

Parents lack health insurance in past 12 months	5.76 (3.96 – 8.37)*
Parents have health insurance in past 12 months	Referent
Household not employed full-time in past 12 months	1.30 (0.72 – 2.34)
Household employed full-time in past 12 months	Referent
Child has medical home (derived variable)	Referent
Child does not have a medical home (derived variable)	1.36 (0.95 – 1.94)

Results: Adjusted Odds Ratio (OR) Need Factors

Presence of a moderate or severe chronic condition	1.31 (0.82 – 2.11)
Does not report a moderate or severe chronic condition	Referent
Presence of a special health care need	0.83 (0.51 – 1.36)
Does not report presence of a special health care need	Referent

* Significantly different from 1 at alpha = 0.05

Unadjusted and Adjusted Odds Ratios
For Discontinuous Health Insurance Coverage
Among Florida Children - Final Model

	Un-Adjusted Odds Ratio		Adjusted Odds Ratio	
Child age 5 to 12	0.87		1.20	
Child age 13 to 17	1.30		1.52	
Male gender	1.03		0.99	
Black race	1.33		1.36	
Not a two parent family	1.94	*	1.30	
Parents have less than high school education	3.36	*	1.72	
Parents have high school education, no college	1.69	*	1.25	
Pimary language in household not English	3.42	*	1.95	*
Hispanic ethnicity	2.11	*	0.71	
Mother foreign born	2.28	*	0.80	
Father foreign born	1.83	*	1.32	
Family below poverty level	2.19	*	2.51	*
Family 100% to 199% poverty level	2.22	*	3.67	*
Family 200% to 399% poverty level	0.50	*	1.91	*
Family poverty level unknown	1.49		3.50	*
Neither parent has health insurance	8.33	*	5.76	*
No one in the household was employed full time	1.91	*	1.30	
Child did not have medical home	2.04	*	1.36	
Child had chronic moderate or severe condition	1.45	*	1.31	
Child had special health care needs	0.85		0.83	

* Odds ratio significantly different from 1 at alpha level 0.05

Adjusted Odds Ratios for Discontinuous
Health Insurance Coverage Among Florida Children – Final Model
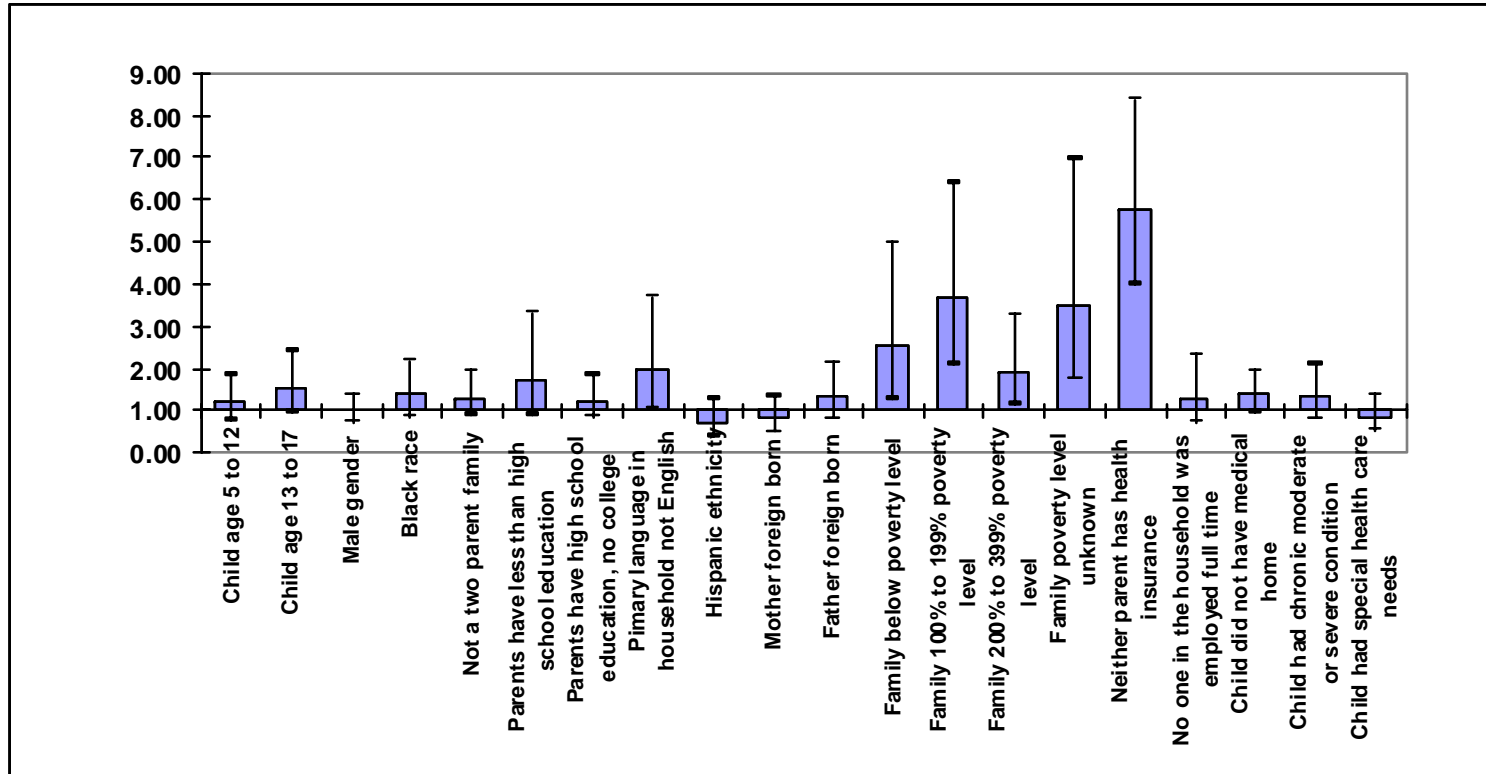
Conclusion

- Discontinuous health insurance coverage (including no insurance) is significantly associated with poverty level, parents' health insurance coverage, and primary language in household not English

- Supports the need for universal health insurance coverage for all in the US

- Why does the wealthiest nation tolerate:
  - Over 45 million people uninsured
  - One of the highest childhood poverty percents among developed nations (Luxemburg Income Study)

Future Research (pending funding)

- Determine influence of 'poverty level unknown' estimates developed by National Center of Health Statistics

- Compare findings to new data of NSCH
  - In progress