CHIP-ing away at health disparities:
Has state-provided health insurance reduced race and nativity-based differences in health care utilization among U.S. children?

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Social Policy and Health Inequalities

Health and health care inequalities among U.S. children threaten America's healthy image

"U.S. Ranks Below 16 Other Rich Countries in Health Report" – NPR, January 9, 2013

U.S. Health in International Perspective: Shorter Lives, Poorer Health – IOM Report, January 2013

"U.S. Ranks Last Among Seven Countries on Health System Performance" – Commonwealth Fund, June 2010
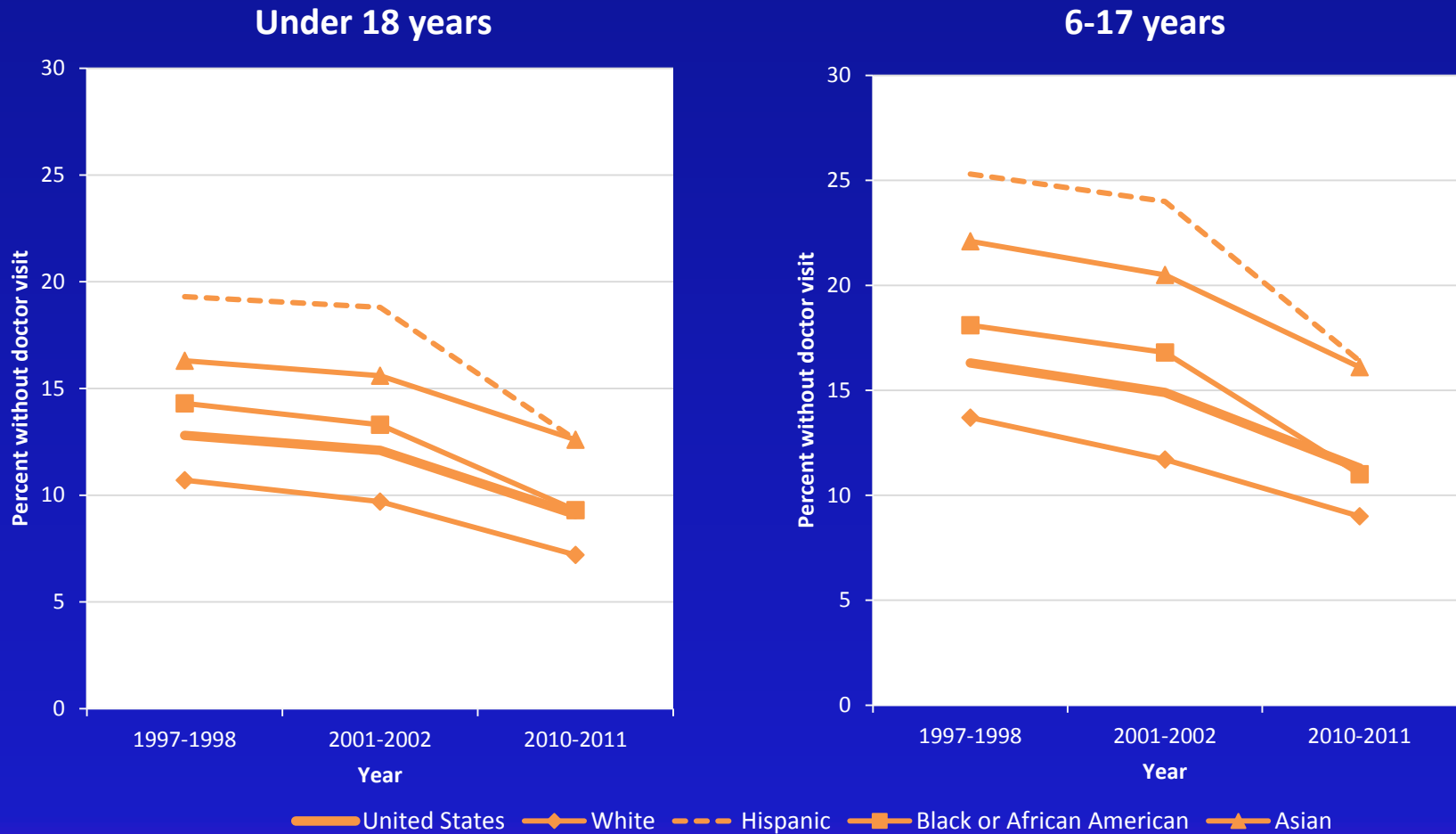
Health and health care inequalities among U.S. children threaten America's healthy image

Infant mortality rate by country or race/ethnicity, 1999-2010.
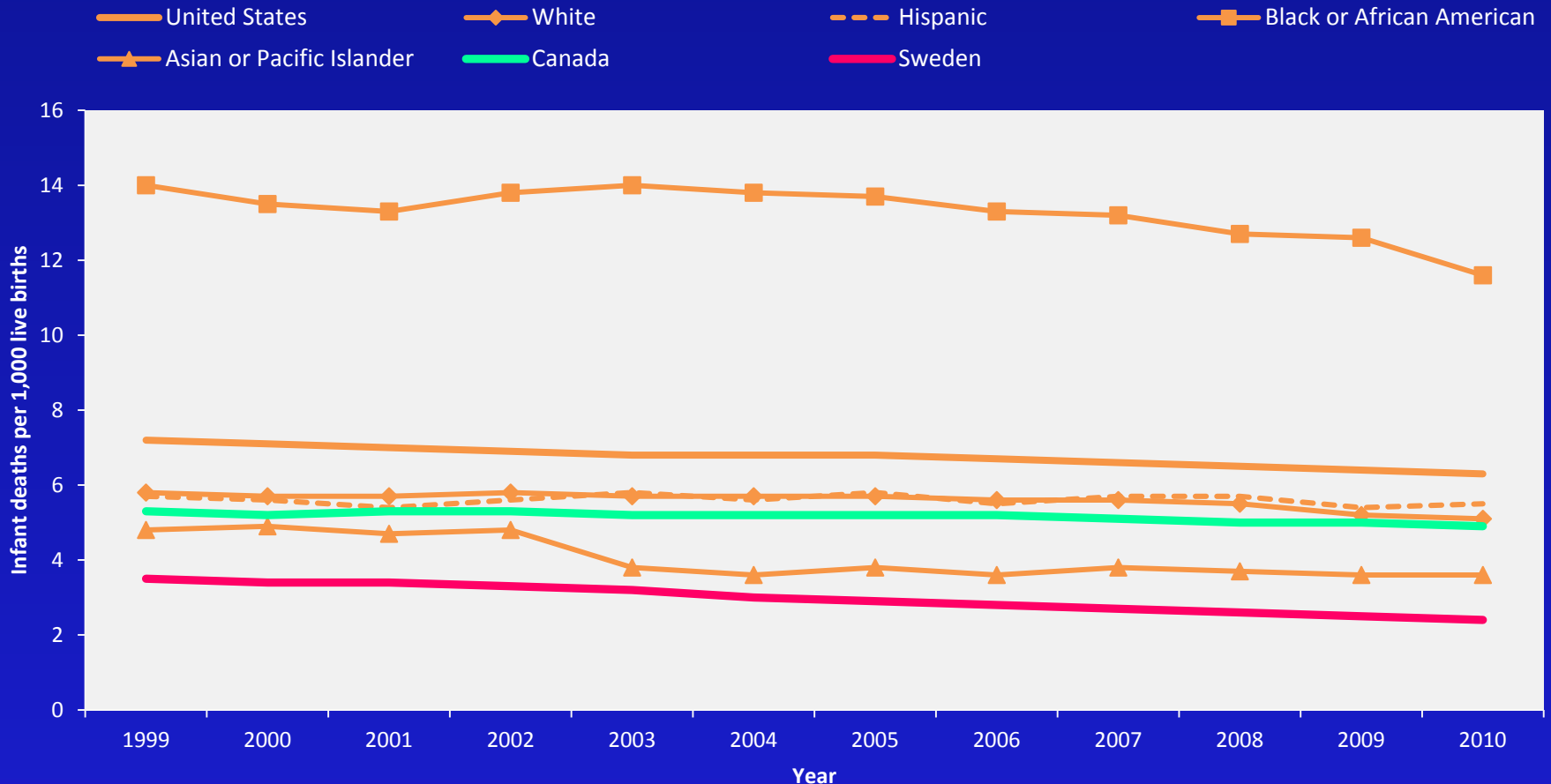
Health and health care inequalities among U.S. children threaten America's healthy image

Percent of children who did not have health care visit in past 12 months, 1997-2011.

Note: Asian category includes Hispanic and non-Hispanic Asians.
Data source: National Center for Health Statistics, "Health, United States, 2012: With Special Feature on Emergency Care."

SCHIP/CHIP aimed to reduce health and health care inequalities: The policy

- 1997 State Children's Health Insurance Program (SCHIP, now CHIP)
  - Increased income threshold to cover children in families with higher incomes than traditional Medicaid
  - Retained coverage of legal immigrant children who have lived in the U.S. for more than 5 years (as mandated by PRWORA)
  - Flexibility in state implementation
- By 1999, all states and D.C. had received federal approval to implement their SCHIP programs
- 2009 Children's Health Insurance Program Reauthorization Act (CHIPRA)
  - Federal matching dollars for legal immigrant children who have lived in the U.S. for _less than_ 5 years

SCHIP/CHIP aimed to reduce health and health care inequalities: Its consequences

- Share of low-income children covered by public insurance coverage increased by 14.0 percentage points from 1997 to 2005 (Dubay et al. 2007)

- Established SCHIP enrollees more likely to receive preventive health and dental care and less likely to have unmet needs than recent enrollees who were uninsured (Kenney 2007)

- What about the health and health care of immigrant children? And what about immigrant-native health disparities?

Objectives of the current study

1. Document the race/ethnic and nativity-based disparities in routine health care utilization among U.S. children, controlling for the child's health status and family socioeconomic status.

2. Determine if race/ethnic and nativity-based health care utilization disparities vary by state-level immigrant eligibility policies and which specific eligibility rules matter the most.

3. Examine the mediating role of insurance coverage in the relationship between state-level policies and routine health care.

Original data collection effort (ongoing)

- We are collecting longitudinal data on state health insurance eligibility rules, particularly those that pertain to immigrant children and their mothers
  - Contacting state health officials in and out of government (e.g., state health departments, legal advocacy centers)
  - Researching electronic sources (e.g., Mathematica evaluation series, National Academy for State Health Policy's 'Charting SCHIP' surveys)

Original data collection effort (ongoing)

- Progress to date:
  - We present data on the first half of the states in alphabetical order, spanning 1996 to 2011
  - Of these states, six (CA, FL, IL, AZ, CO, & GA) rank in the top ten for Hispanic population size
  - Of these states, two (CA, HI) rank in the top five for Asian population size

Original data collection effort (ongoing)

- State-level policy indicators:
  - Income threshold
  - Does the state require documentation of legal immigrant status?
  - Does the state provide coverage to legal immigrant children who have lived in the U.S. for less than 5 years?

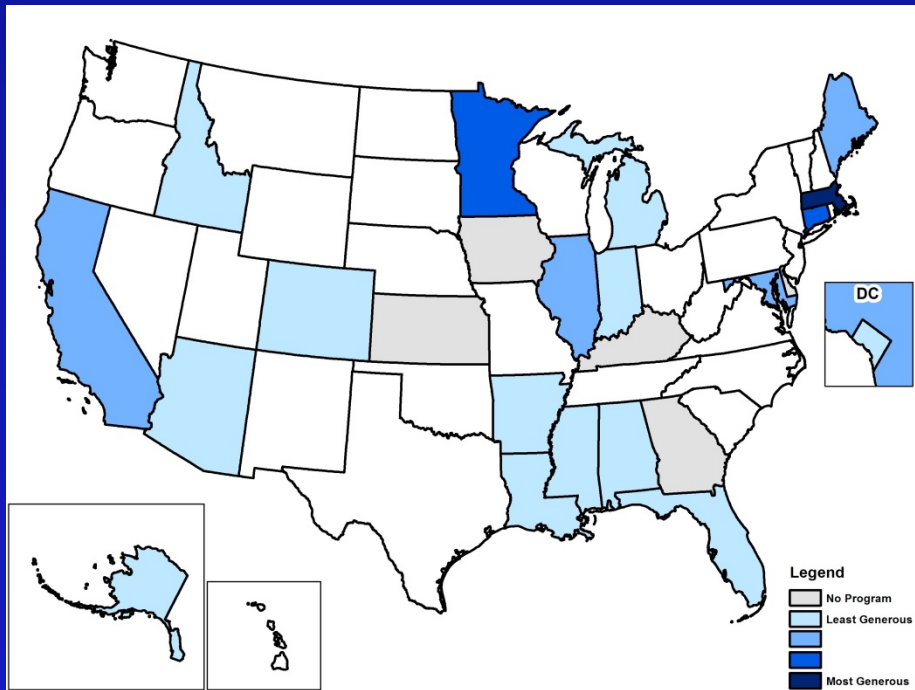# Mapping CHIP generosity towards immigrant children
State differences

Immigrant generosity scale:

1. Does the state cover any immigrant children?

2. Does the state cover any immigrant children above or below 200% FPL?

3. Does the state require documentation of legal status?

4. Does the state cover legal immigrant children who have lived in the U.S. for less than 5 years?
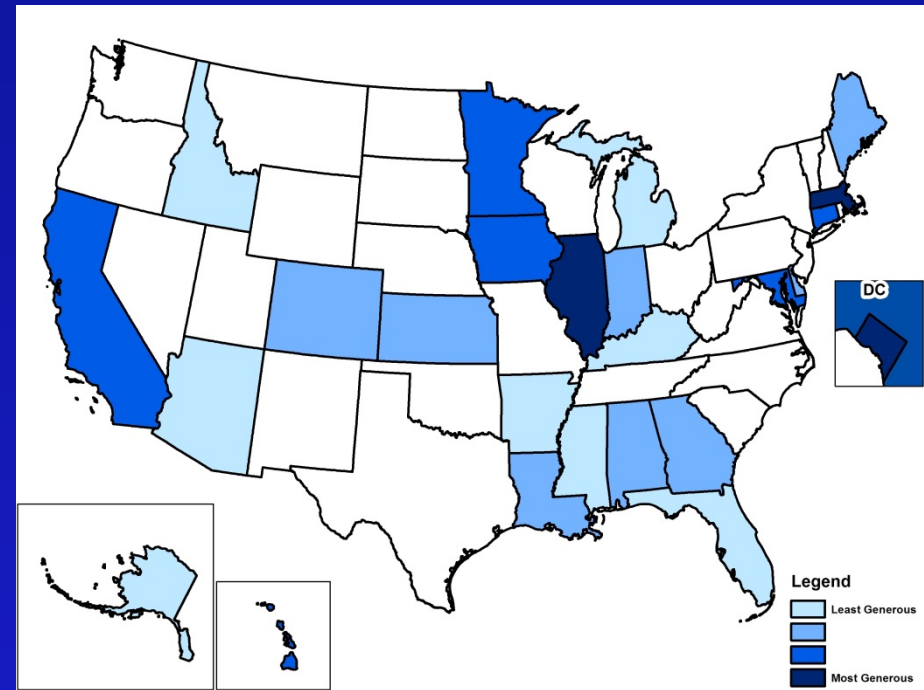
Mapping CHIP generosity towards immigrant children
State differences

State CHIP Immigrant Generosity Scale, 1998

State CHIP Immigrant Generosity Scale, 2010

Legend

No Program
Least Generous

Most Generous

DC

Legend

Least Generous

Most Generous

DC

Data are not yet available for states colored in white

Mapping CHIP generosity towards immigrant children
State differences

State-level descriptives (N=25, including DC)

	1998[a]	2004	2010
# that cover legal children < 5 years	7	10	11
# that do not require legal documentation	2 (MA, MN)	2 (DC, MA)	3 (DC, IL, MA)
Mean score on immigrant generosity scale	1.21	1.72	2.16

[a] 24 states had complete data in 1998 (Hawaii was excluded because of missing data).

Sample

- Survey of Income and Program Participation (SIPP)
- 1996, 2001, 2004, and 2008 panels
- 113,159 person-years for children under age 19 with non-missing data on all study covariates
  - 84,932 person-years for children under age 19 with family income at or below 400% FPL

Child-level data
Descriptives

Variable	%
Child-level statistics	
Foreign born (ref=U.S. born)	8.49
Race/ethnicity	
Non-Hispanic white	59.81
Non-Hispanic black	14.81
Hispanic	21.01
Asian	4.38
Good/fair/poor health (ref=excellent or very good)	14.32
Insurance status	
Always insured (ref)	69.34
Sometimes uninsured	24.82
Always uninsured	5.83
[Missing some insurance data]	17.45
No doctor visit past year	33.34

Variable	%
Mother or family-level statistics	
Mother's education	
Less than high school	15.22
High school or some college	60.21
Bachelor's degree or higher (ref)	24.57
Family income to poverty ratio	
100% FPL and under	19.79
100 to 200% FPL	22.01
200 to 300% FPL	18.39
300 to 400% FPL	14.05
More than 400% FPL (ref)	25.76
Has at least one citizen parent	93.36
Part of married family	73.03

Note: All descriptive statistics were weighted by person weight.

Analysis strategy

- Multi-level logistic regression accounting for state-level clustering
  - Proc Glimmix in SAS 9.4

- In future…
  - Three-level model that accounts for within-individual and within-state variation

Results

- Model 1: Race/ethnicity & nativity
- Model 2: Add individual and family-level controls
- Model 3: Policy indicators
- Model 4: Interactions between policy indicators and race/ethnicity & nativity
- Model 5: Child's insurance status

Multi-level logistic regression results predicting annual doctor visit: logged odds

Variable	Full sample		Restricted sample <= 400% FPL	
	Model 1 Race/ethnicity & nativity	Model 2 + Controls	Model 1 Race/ethnicity & nativity	Model 2 + Controls
Child race/ethnicity & nativity (ref = Native born, Non-Hispanic whites				
Foreign born, Non-Hispanic whites	0.15 **	0.29 **	0.10 **	0.28 **
Native born, Non-Hispanic blacks	-0.50 **	-0.40 **	-0.40 **	-0.36 **
Foreign born, Non-Hispanic blacks	-0.51 **	-0.25 **	-0.47 **	-0.23 **
Native born, Hispanics	-0.64 **	-0.27 **	-0.54 **	-0.27 **
Foreign born, Hispanics	-0.98 **	-0.38 **	-0.90 **	-0.38 **
Native born, Asians	-0.30 **	-0.21 **	-0.27 **	-0.18 **
Foreign born, Asians	-0.49 **	-0.13	-0.45 **	-0.03
State covariance parameter	0.12 **	0.10 **	0.11 **	0.11 **

* $p<0.05$; ** $p<0.01$

Notes: N=113,159 person-years (84,932 in restricted sample). All analyses were weighted by person weight and controlled for year. Model 2 controlled for child's age, sex, parent-reported health status, mother's education, family income to poverty ratio, whether the child has at least one citizen parent, and whether the child is part of a married family.

Variable	Restricted sample <= 400% FPL		
	Model 3 Policy indicators	Model 4 Interactions	Model 5 + Health Insurance
Income threshold (ref = < 200% FPL)			
200-300% FPL	0.07 *	-0.01	0.002
No legal documentation requirement	0.10	0.11	0.08
No residency requirement	0.08 *	0.05	0.09
Significant interactions			
Native, NHB * 200-300% FPL		0.40 **	0.32 **
Native, Asian * 200-300% FPL		0.49 **	0.49 **
Foreign, Asian * 200-300% FPL		1.56 **	1.85 **
Foreign, Asian * No documentation required		1.22 *	1.43 *
Foreign, Hispanic * No residency requirement		0.23 *	0.15
Insurance status (ref = Always uninsured during past year)			
Sometimes uninsured past year			0.71 **
Always insured past year			1.12 **
State covariance parameter	0.09 **	0.09 **	0.08 **

* p<0.05; ** p<0.01

Notes: N=113,159 person-years (84,932 in restricted sample). All analyses were weighted by person weight and controlled for year, child's age, sex, parent-reported health status, mother's education, family income to poverty ratio, whether the child is missing some insurance coverage data, whether the child has at least one citizen parent, and whether the child is part of a married family.

Conclusions

- Question 1: Yes, there are race/ethnic and nativity-based disparities in access to health care. Foreign-born Hispanics and native-born non-Hispanic blacks are the most disadvantaged.

- Question 2: Policy indicators are sometimes significant but do not explain race/ethnic & nativity disparities
  - Income threshold matters for natives and immigrants, especially a threshold that encompasses the near poor (from 200 to 300% FPL)
  - Whether a state requires legal documentation matters for foreign-born Asian children
  - Whether a state prohibits coverage of recent immigrant children matters for foreign-born Hispanic children

Conclusions continued

- Question 3: Among our policy indicators, only residency requirement seems to work through access to health insurance.
  - Foreign-born Hispanic disparity with native-born whites is explained by health insurance coverage

Acknowledgements