Research Objective: The objective of this research is to examine the impact of the passage of the State Children's Health Insurance Program (CHIP) in 1997 and its reauthorization, the Children's Health Insurance Program Reauthorization Act (CHIPRA) in 2009 on coverage, access to care and health status of U.S. children. Since the implementation of Medicaid in 1965, the U.S. has taken an active role in providing health insurance for low-income children. In the 1980s Medicaid coverage was expanded to pregnant women with incomes below 75% of FPL and increased incrementally to 133% of FPL by 1990; states also had an option to move to 185% of FPL with commitment of federal financial payments (Epstein and Newhouse (1998). CHIP was the next major expansion in 1997 which expanded coverage up to 200% FPL with enhanced federal assistance payments and CHIPRA in 2009 provided additional incentives to states to increase enrollment (again states could increase eligibility levels with approval of CMS and some states are as high as 400% of FPL eligibility levels).

The major CHIP evaluation conducted by Mathematica for the Center for Medicaid and Medicare Services (CMS) documented substantial gains in coverage (Rosenbach 2007). CHIP enrolled 6.6 million new children through fiscal year 2006. The study also found significant improvement in access to needed medical care for children due largely to increases in public program health insurance coverage. CHIP has also been found to have had the greatest impact on low-income children; the rate of uninsurance among children in families with incomes below 200% of the Federal Poverty Level (FPL) declined by one-third over the last decade (Kaiser Commission, 2009). This was in part due to CHIP enrollment, but also to increased Medicaid enrollment resulting from CHIP-funded outreach and enrollment activities and reduced stigma.

While the CHIP program has resulted in a significant improvement in coverage for children, an analysis conducted by the current authors, using data from the Current Population Survey found a plateau in the increase in children's coverage between 2004-2007 (see Figure 2). This raised concerns about the continued effectiveness of the CHIP program in reaching low-income uninsured children. The persistent gap in coverage for those eligible for CHIP but not enrolled led to the inclusion in the CHIPRA legislation of language providing significant financial incentives for states who could demonstrate increased enrollment of eligible uninsured children in the CHIPRA legislation.

In this paper, we examine patterns in insurance coverage, access to care, and health for children between 1997 and 2010 to provide an updated assessment of the full impacts of CHIP and CHIPRA, as well as to identify the remaining gaps in coverage and access to care for children. This study will take advantage of the breadth of coverage, access and health status variables available in the NHIS to provide the latest analysis of the impact of CHIP and CHIPRA using data from 1997 through 2010. We extend the previous evaluation study by adding the most current years of coverage 2008-2010 with possible early release data of 2011.

Theoretical Focus: Economic research suggests that people living in poverty have poor health outcomes and are less likely to participate in the labor market. The mechanisms by which poverty affects health are complex; some research suggests that adverse health outcomes can be due, in part, to limited access to health care (GAO 2007). We use economic theory to try to disentangle the impact of health insurance coverage on health status controlling for income and health insurance coverage.

Data: We use data from the US National Health Interview Survey, the leading source of information on the health of the U.S. population. We access data through the Integrated Health Interview Series (IHIS) a unique web-accessible data portal that allows provides free online access to thousands of consistently-coded and fully-documented NHIS variables from 1969 to the present (at www.ihis.us). We focus on two time periods: the1997 implementation of CHIP and then the 2009 implementation of CHIPRA. CHIP expanded income eligibility and outreach activity; CHIPRA provided additional financial incentives to states to enroll eligible uninsured children. We are specifically interested in two population groups. First children living in poverty (0-100% FPL) and near poverty (100-199% FPL) compared to children living in families with higher incomes (200-399% FPL and 400% and above). Second, we are interested in different cohorts of children – new born infants (age 0-1); those age 3-6; 7-14 and 15-18. We also analyze our outcome variables by type of health insurance coverage over time (public, private, uninsured). Our outcome variables include access to care (needed but couldn't afford medical care during the past 12 months; needed but couldn't afford prescription medicines in the past months; has a usual place for medical care); and health status (birth weight-in pounds; health status-poor, fair, good, very good, excellent; Body Mass Index and missed days of school).

Research Method: We use an interrupted time-series framework for cross sectional time series data to analyze changes over time in health insurance coverage, access to care, and health status for children relative to the timing of the specific policy interventions under CHIP and CHIPRA. In order to incorporate the timing of the policy changes in the child's state of residence in the analysis, we will conduct the analysis within a Research Data Center in order to gain access to state of residence in the NHIS. We will examine changes over time for children overall, and by age and income groups, comparing the patterns to other populations who have not been afforded expanded public coverage (e.g., higher-income children, childless adults). See SAS Time Series Cross-Sectional Regression Analysis-TSCREG procedure.

Preliminary Findings: This study will provide new information on access to care, coverage status and health outcomes for low-income children over time (from 1997-2010). The results will provide an update to the national CHIP evaluation which focused on change between 1998 and 2007. While there was significant increase in coverage for children, our initial analysis of 2004-2007 coverage rates for low-income children shows no significant gains in health insurance coverage. The 2009 CHIPRA legislation provided financial incentives for states to improve outreach and enrollment strategies to enroll eligible but uninsured children. Our analysis will provide a first look at the impact of CHIPRA on increasing coverage rates, access to needed care and health outcomes.

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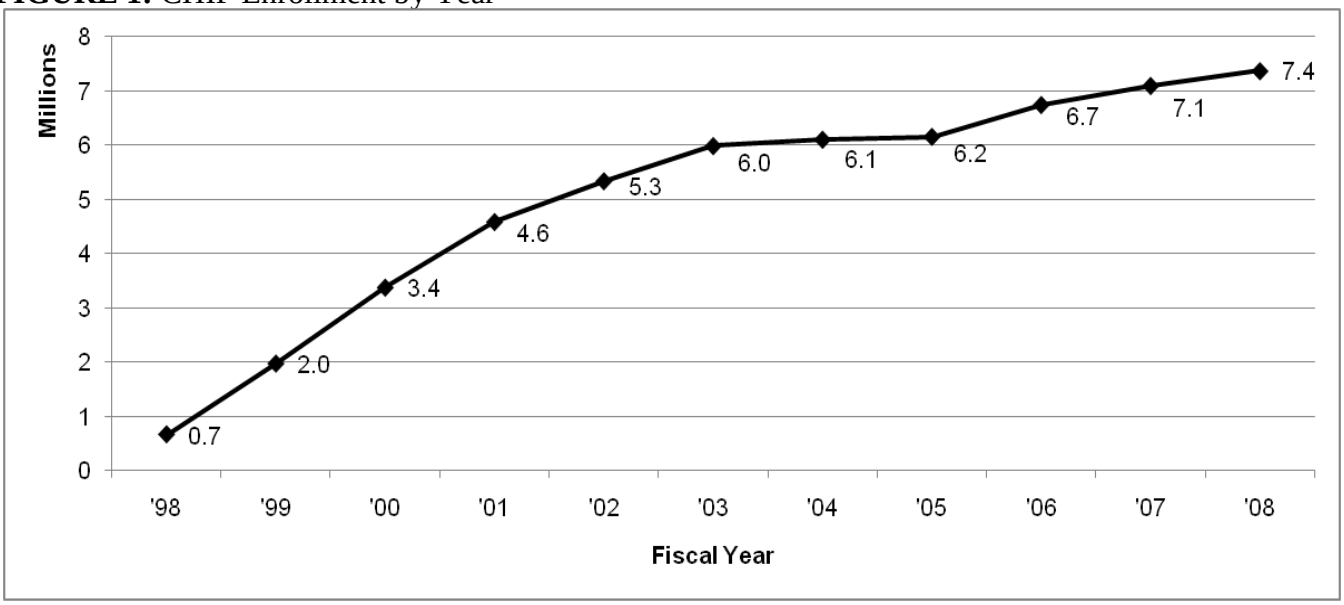
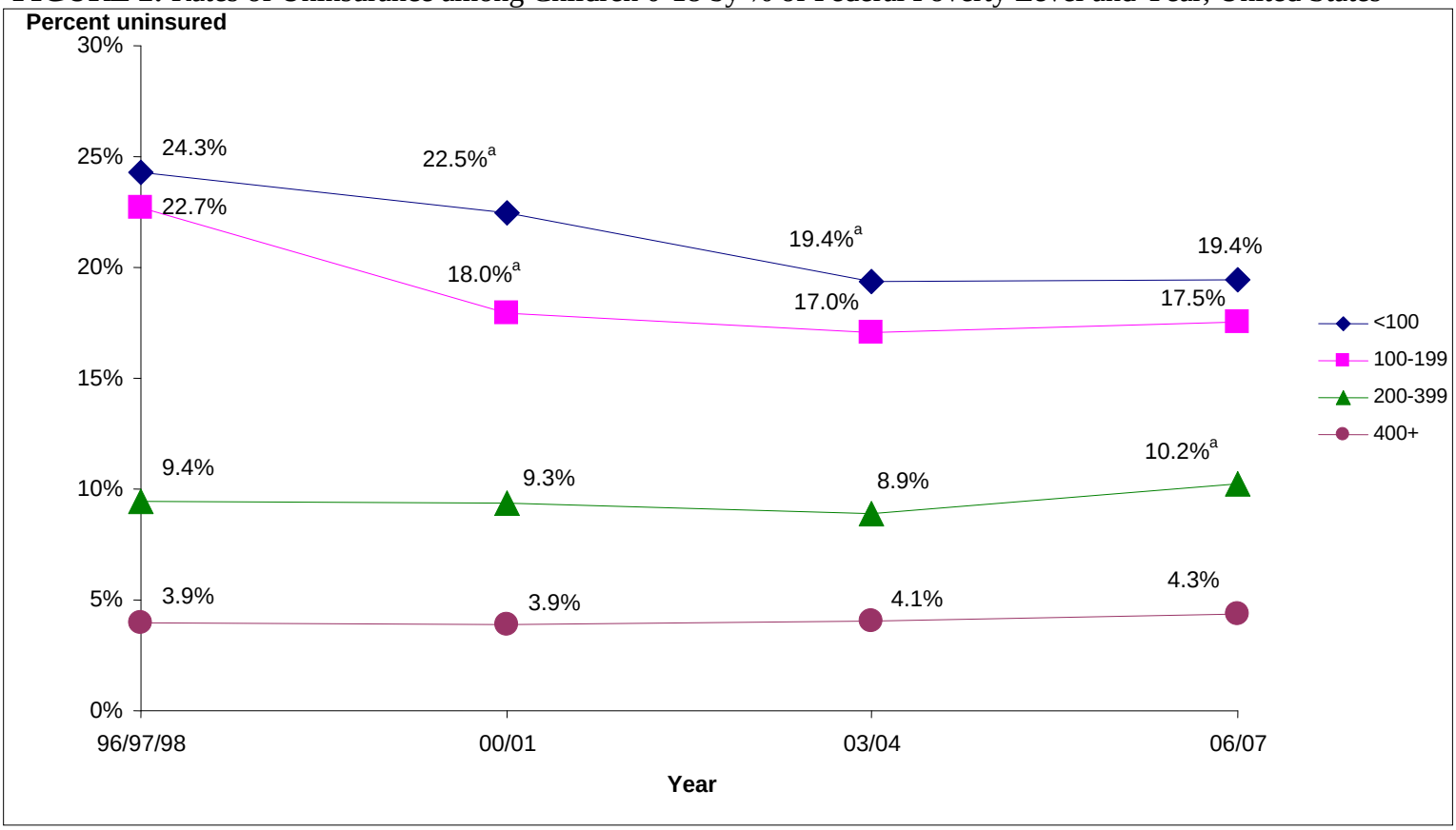
FIGURE 1: CHIP Enrollment by Year



CHIP Statistical Enrollment Data System (SEDS) 01/20/09

FIGURE 2: Rates of Uninsurance among Children 0-18 by % of Federal Poverty Level and Year, United States



SOURCE: SHADAC analysis of 1997-2008 CPS. **Note:** The CPS has been modified to correct for change in categorization of IHS in 1997, the introduction of a verification question in 2000, and the household imputation fix in 2005.
[a]Indicates significant difference from earlier time period at $p<0.001$