



# **Implementation of Improvements to the Allocation Routine for Health Insurance Coverage in the CPS ASEC**

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Research Conference**

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# Acknowledgements

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- **Thanks to the Health and Disability Statistics Branch, U.S. Census Bureau for their support of this work**
  - Funded under contract #000000033114
- **<http://www.census.gov/hhes/www/hlthins/hlt-hins.html>**

# Outline

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- **Context**
- **Background**
- **Improvements to the allocation routine**
- **Historical trends from 1988 to 2011**

# Importance of Estimates

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- **Surveillance**

- Trends and correlates in coverage: Private coverage decreasing as public coverage increases

- **Policy Analysis**

- 1990: Medicaid expansions
- 1997: Children's Health Insurance Coverage (CHIP)
- 2010: US Health Reform, Affordable Care Act (ACA)

# Data Needs

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- **Accurate estimates for a given year**
- **Consistent estimates over time**
- **Ability to study estimates by characteristics (i.e. age) and for individual states**

# Current Population Survey Annual Social and Economic Supplement (CPS ASEC)

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- **CPS provides over 20 years of health insurance coverage estimates**
- **CPS is a monthly labor force survey**
- **ASEC fielded in February to April**
  - Additional questions on work, income, migration, and health insurance coverage

# Current Population Survey Annual Social and Economic Supplement (CPS ASEC) (2)

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- **Health insurance coverage questions ask about coverage in the previous calendar year**
  - For example, the 2011 ASEC asks about coverage during 2010
- **All years in this presentation refer to the survey year, the year of the ASEC**

# Improvements to Health Insurance

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- **Census Bureau dedicated to improving the quality of the health insurance estimates**
  - 2000: Verification question
  - 2001: Separate CHIP question added
  - 2002: Sample expansion
  - 2005-2006: Correction to the assignment of private coverage (1997-2004: approximation)
  - 2010: Assign Medicaid to uninsured foster children
  - 2010: Addition of premium costs and medical out-of-pocket information
  - **2011: Improvements to missing data allocation**



# Background of Allocation

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- **Approximately 10% of monthly CPS sample does not respond to ASEC**
  - All data for these cases are imputed
  - Full Supplement Imputations (FSI)
- **Additionally, 2-3% of respondents are missing data on health insurance items**

# Allocation Method

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- **Hot deck randomly draws values for missing cases (recipients) from similar non-missing records (donors)**
- **Donors are organized into matrices consisting of variables that define “similar”**
  - For example age, marital status, work status
- **Assumes missing is random within cells**
  - Maintains correlations within complete data

# Background of Inconsistencies

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- **Davern et al. (2007) discovered inconsistencies in the hot deck specification**
  - Instrument allows any household member to be a private plan dependent
  - Allocation routine assigned dependent coverage only to nuclear family members of a policy holder
  - Did not consider other coverage the respondent may have had

# Improvements to the Allocation Routine

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- **Switch order with public coverage allocated first, followed by private coverage**
- **Include public coverage in the private coverage matrix**
- **Remove nuclear family restriction**
- **Also, discovered and corrected a coding error that undercounted imputed direct purchase coverage for children**

# Results – 2009 Research File

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## Uninsured Estimates by Age and Imputation Routine

	Old Routine		New Routine	
	Percent	Count	Percent	Count
<b>All Ages</b>	<b>15.4</b>	<b>46,340</b>	<b>14.9</b>	<b>44,832</b>
0 to 18	10.3	8,076	9.9	7,820
19 to 64	20.3	37,617	19.7	36,386
65+	1.7	646	1.7	627

Source: 2009 CPS ASEC Research File; analysis conducted by SHADAC

# Detailed Results

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- Available in “Modifications to the Imputation Routine for Health Insurance in the CPS ASEC: Description and Evaluation,” Boudreaux and Turner, 2011, at <http://www.census.gov/hhes/www/hlthins/data/revhlth/SHADAC.pdf>

# Implementation

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- **Improvements and coding correction implemented with the 2011 ASEC**
- **Improvements and coding correction applied to the 2000-2010 ASEC's**
  - Supplants previous revised series

# Historical Modifications

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  - 2010: Assign Medicaid to uninsured foster children
  - 2010: Addition of premium costs and medical out-of-pocket information
  - 2011: Improvements to missing data allocation



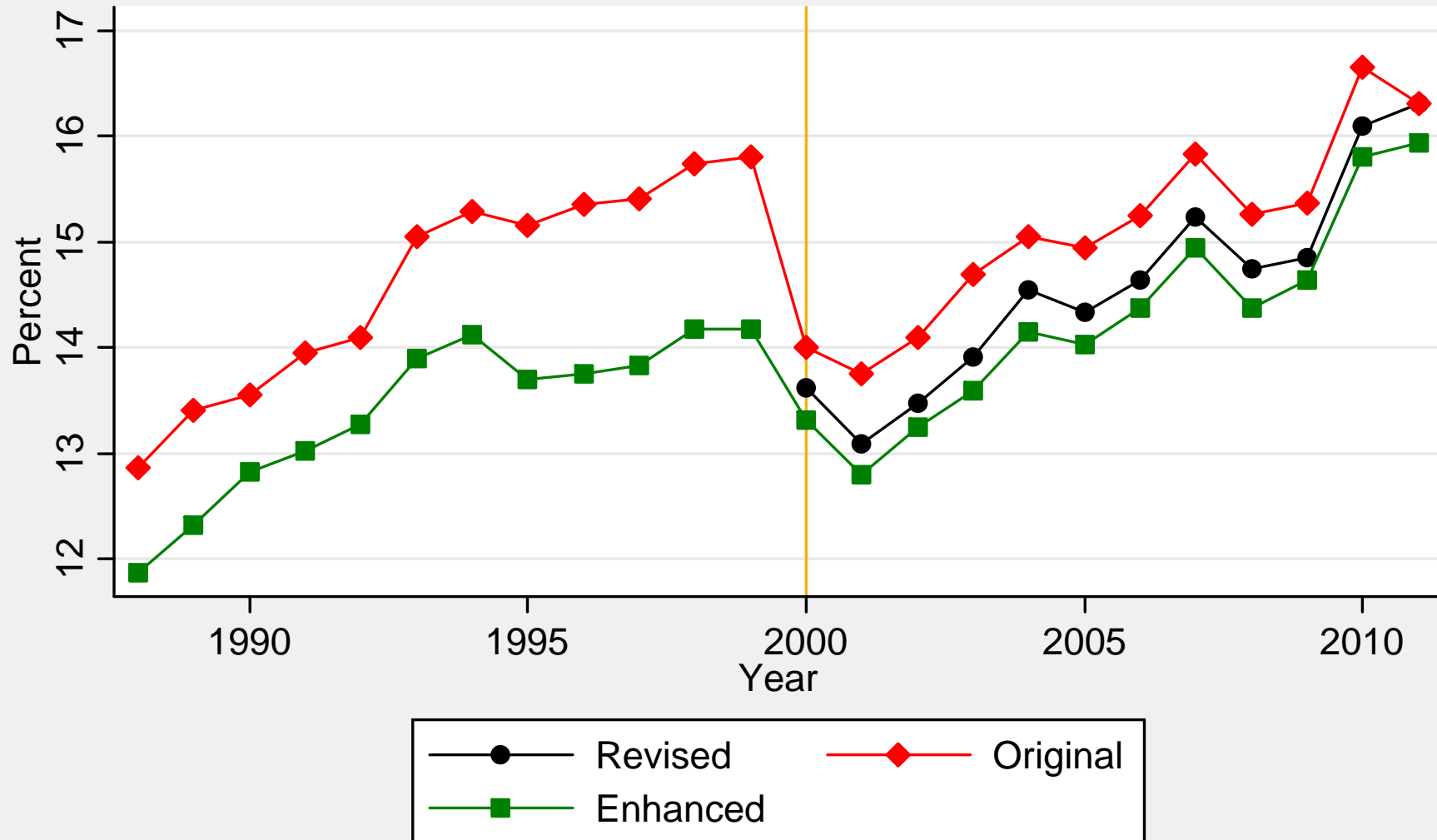
# Comparisons Over Time by Data Series

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- **Revised**
  - New allocation routine and all prior modifications
- **Original**
  - Old allocation routine with 1997-2004 approximation
- **SHADAC-Enhanced**
  - Developed by SHADAC to harmonize the data over time
  - Removes full supplement imputations and re-weights
  - Revised to include the new allocation routine

# Uninsured Time Series by Data Series

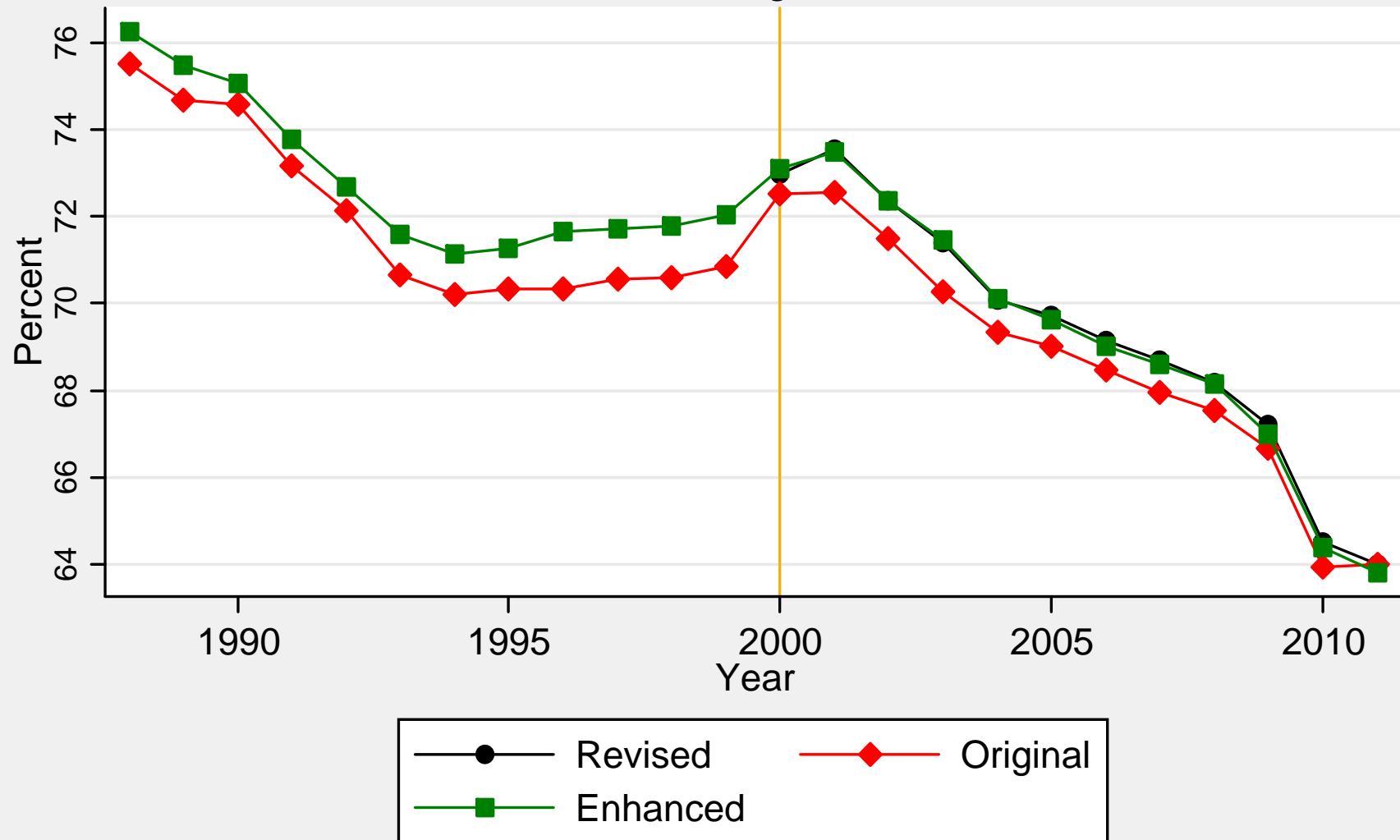
All Ages



Source: 1988-2011 CPS ASEC's; analysis conducted by SHADAC

# Private Coverage Time Series by Data Series

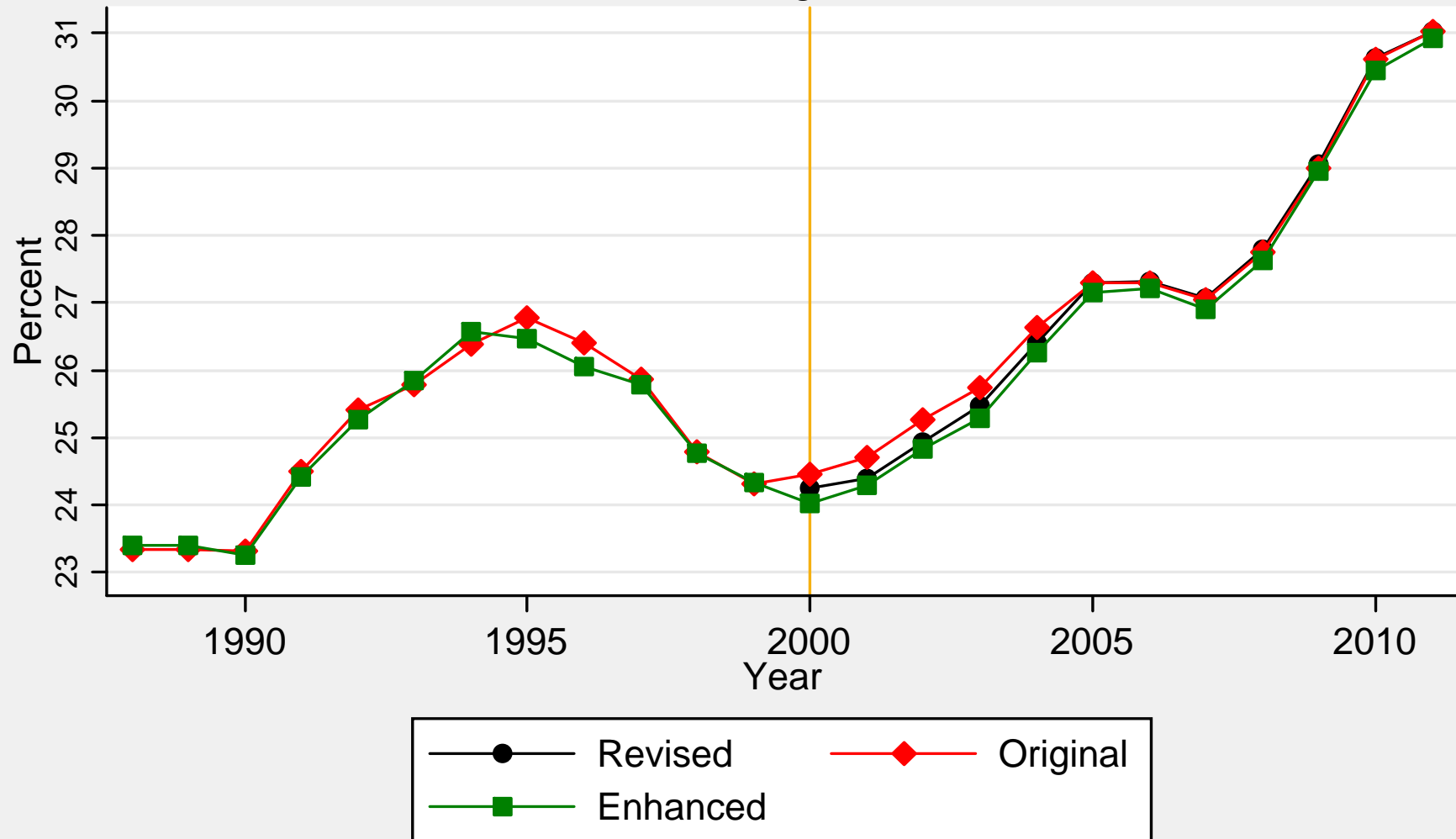
All Ages



Source: 1988-2011 CPS ASEC's; analysis conducted by SHADAC

# Public Coverage Time Series by Data Series

All Ages



Source: 1988-2011 CPS ASEC's; analysis conducted by SHADAC

# Conclusions

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- **The new allocation routine improves the quality of the CPS ASEC health insurance coverage estimates**
- **The data revisions create a consistent time series for 2000+ which is important for surveillance and policy analysis**
- **SHADAC-Enhanced recommended for pre-2000 analysis for a consistent time series**



State Health Access Data Assistance Center

*Bridging the gap between research and policy*

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