


Data sources and approaches to adjusting for the Medicaid undercount




A Mile-high Perspective

January 13, 2009

SHADAC Workshop:
Current Issues in Survey Methods
for State Health Surveys
Washington, D.C.

A Presentation of the
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Overview

- A bit about Colorado
- What are the questions?
- What are the data sources?
- What are the approaches?
- Some initial results
- Challenges, discussion


Thanks to Glenn Goodrich, Mike Davern, Pamela Hanes and Amy Downs for assistance in development and review of this presentation.

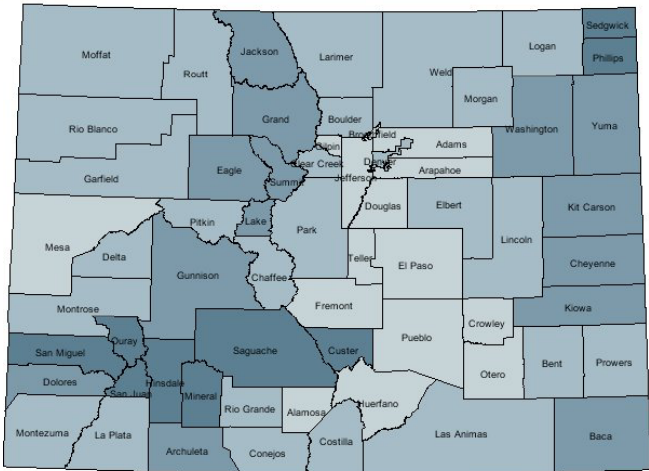
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A bit about Colorado

- About the Colorado Health Institute (CHI)
- CO population 4.9 million (2007)
- 15.4% population growth between 2000 and 2007
- Separate Medicaid and SCHIP programs
- Data on the uninsured
 - CPS
 - State household surveys in 2001, 2008 (in field)

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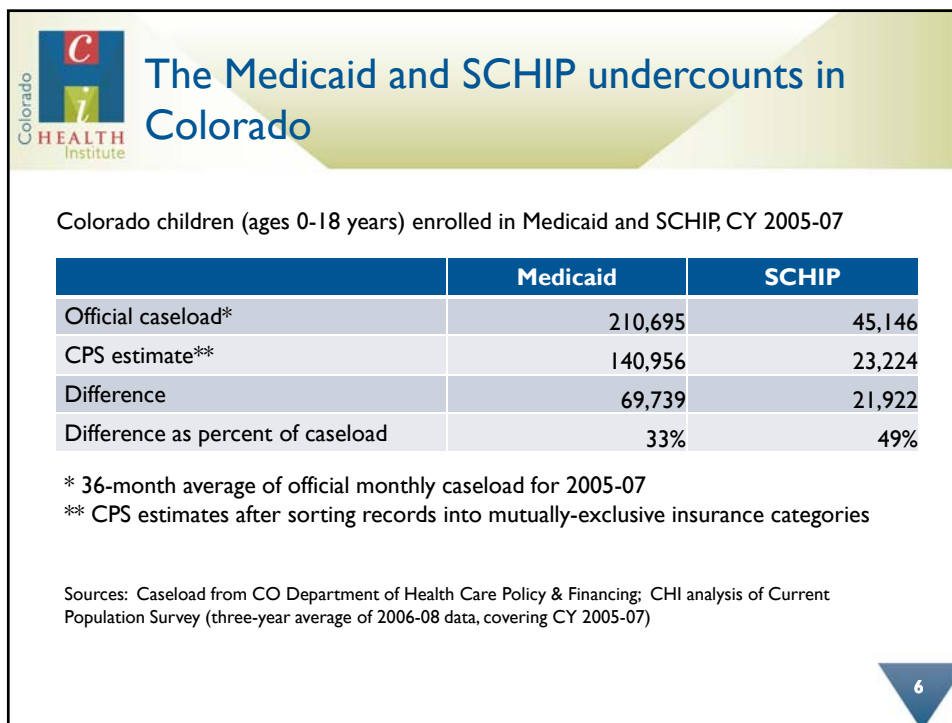
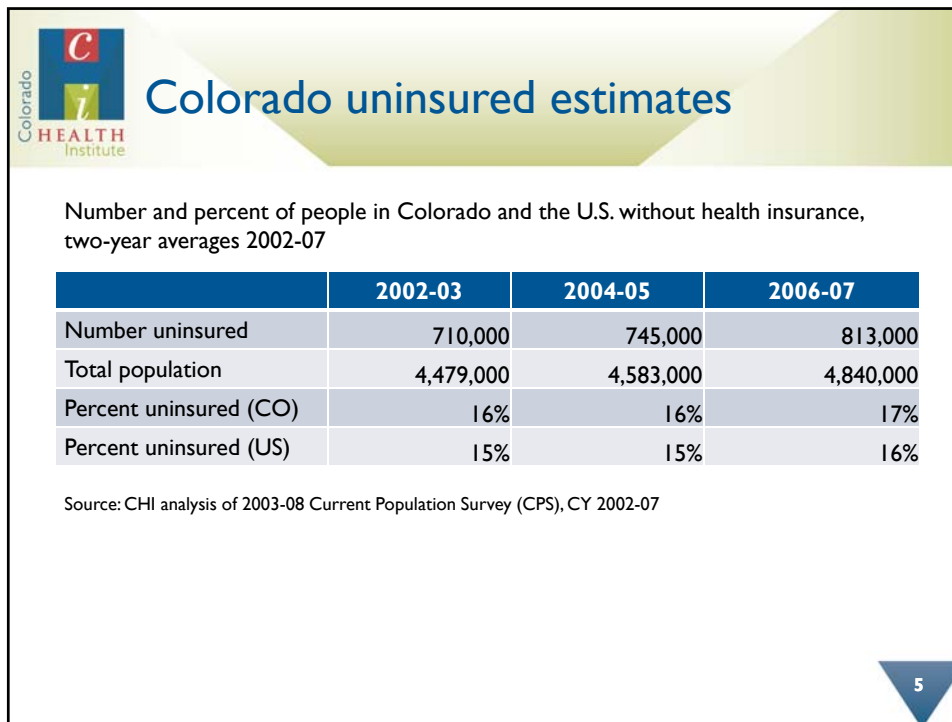

Percent of Coloradans without health insurance, ages 0-64, 2005




Percent or Number Uninsured
 ■ 31.0% to 37.8%
 ■ 24.2% to 31.0%
 ■ 17.4% to 24.2%
 ■ 10.6% to 17.4%
Colorado: 17.7%

Source: CHI map of 2005 Small Area Health Insurance Estimates (SAHIE)
 Available for download at www.coloradohealthinstitute.org

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Questions from CHI constituents

- How many uninsured people are there in Colorado?
- Is the number/rate of uninsured going up or down?
- ➔ How many children are eligible for public coverage (Medicaid and SCHIP) but not enrolled?

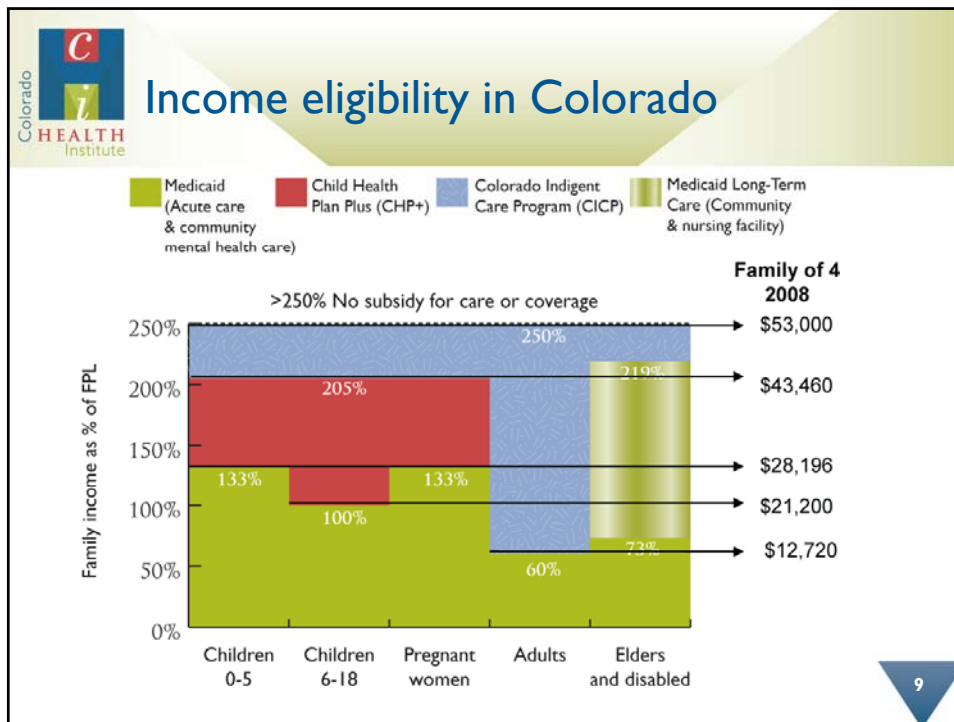
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Eligible but not enrolled (EBNE) questions

- How many children are EBNE in Medicaid?
- How many children are EBNE in SCHIP?
- How many adults are EBNE in Medicaid?
- How many EBNE children are in each county?
- What are the characteristics of EBNE children and their parents?
 - By age
 - By percent of federal poverty level (FPL)
 - By employment characteristics of parent
 - By citizenship status

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- Potential data sources of EBNE estimates**
- Colorado HEALTH Institute
- ➔ 1) Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC)
- 2) Small Area Health Insurance Estimates (SAHIE)
- 3) 2001 Colorado Household Survey
- In the future:*
- 4) 2008/2010 Colorado Household Surveys
- 5) American Community Survey (ACS)
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Analytic approaches for estimating EBNE children

Standard CPS analysis (no adjustment)
OR,
Undercount adjustment approaches --

- CHI adaptation of Dubay et al.
- SHADAC method (regression approach)

Other approaches --

- SAHIE
- SHADAC's county-level EBNE method






Assigning primary coverage to people reporting multiple sources

About 11% of under age 65 population indicate multiple sources of coverage throughout the year. Primary coverage assigned using the following rank order:

- 1) SCHIP (CHP+)
- 2) Medicaid
- 3) Employer-based (own job)
- 4) Employer-based (from another's job)
- 5) Other public coverage (Medicare and military)
- 6) Other private (non-group)
- 7) Uninsured

Source: The Kaiser Commission on Medicaid and the Uninsured. *Health Insurance Coverage in America: 2004 Data Update*. Nov. 2005. <http://www.kfi.org/uninsured/7415.cfm> (Note that SCHIP and Medicaid were combined in Kaiser's analyses.)






Methods for estimating EBNE: Standard CPS cross-tabulation

- Cross-tabulation of variables from CPS public use file
- No Medicaid undercount adjustment;
- Eligibility for Medicaid and CHP+ estimated based on income only;
- SCHIP item only asked of families that indicate no children in family were covered by Medicaid prior to 2008;
- Effects of CO policy changes in CY 2005-07 are not accounted for, i.e., the removal of Medicaid asset test, CHP+ eligibility expansion, reinstating of CHP+ implementation and removal of enrollment cap

These caveats apply to other CPS-based analytic approaches described in this presentation

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CHI adaptation of Dubai et al.

Adjustment of CPS weights for uninsured, Medicaid and privately insured categories

Step 1 --


$$\text{Administrative counts} - \text{CPS estimates} = (\text{estimated Medicaid undercount}) \times 70\% = \text{adjusted undercount}$$

Step 2 --

- Uninsured decreased by 1/3 of the 70%
- Privately insured decreased by 2/3 of the 70%
- Medicaid increased by 70%
- Same exercise done for SCHIP

Note: 70% determined by CHI and CO Department of Health Care Policy & Financing
Source: Dubai, Holahan and Cook. (2006). The uninsured and the affordability of health insurance coverage. *Health Affairs Web Exclusive*. 30 November.


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CHI adaptation of Dubay et al. (continued)

- Assumes CPS uninsured estimates are a point in time
- Use of official monthly caseload figures likely underestimates the Medicaid and CHP+ undercounts
- Model provides limited income flexibility (up to 250% of FPL) to account for family income fluctuations over past calendar year
- Model is limited to families with an annual income up to 250% FPL. CPS respondents report insurance coverage at any point during the past calendar year while reporting *annual* income vs. Medicaid eligibility, which is determined *monthly*. This creates a complex interaction between income and insurance variables which is not understood

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SHADAC regression approach

Parameters developed by SHADAC to predict the likelihood that a CPS respondent is found in the Medicaid administrative records (MSIS); use these probabilities to create new Medicaid enrollment variable

- Assumes CPS estimates uninsured status for a full year;
- Does not adjust for the SCHIP undercount; and
- Confidence limits do not account for the the extra variance generated by creating a new Medicaid variable from the model

Source: Davern et al. *Medicaid under-reporting in the Current Population Survey and one approach for a partial correction*. State Health Access Data Assistance Center. Revised Oct. 15, 2007.
http://www.shadac.umn.edu/img/assets/18528/CPSMedicaid_Adj_Oct2007.pdf

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Preliminary results: Comparison of three CPS-based methods


Estimates of number of Colorado children (0-18) who are income-eligible but not enrolled (EBNE) in Medicaid and SCHIP, 2005-07

	Standard cross-tabulation (no adjustment)	CHI adaptation of Dubay et al.	SHADAC Regression
EBNE in Medicaid (95% CI)	68,000 (51,000 – 84,000)	59,000 (45,000 – 72,000)	49,000 (40,000 – 58,000)
EBNE in SCHIP (95% CI)	44,000 (32,000 – 56,000)	36,000 (26,000 – 46,000)	41,000 (33,000 – 49,000)
Total	111,000	95,000	90,000

Source: CHI analysis of CPS 2006-08 data (covering CY 2005-07)

NOTE: These preliminary results are undergoing review and are subject to change

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Small Area Health Insurance Estimates

Insured and uninsured estimates for every county in U.S.

- 2005 model produced estimates of number of children ages 0-18 with incomes at or below 200% of poverty (approximates Colorado's income eligibility criteria for public coverage)
- Unable to distinguish between EBNE in Medicaid and EBNE in SCHIP
- The 2005 SAHIE program's *percent uninsured* numerator includes uninsured children at or below 200% of poverty and denominator includes children of all income levels

Source: U.S. Census Bureau <http://www.census.gov/did/www/sahie/>

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SHADAC county-based EBNE method

Applies estimates of eligible children from ACS Public Use Microdata Area (PUMA) regions and CPS metro/non-metro uninsured rates to state demography office county population estimates to produce county-level EBNE estimates

- Can apply method to both Medicaid and SCHIP eligibility criteria;
- Includes citizenship status into eligibility criteria; and
- Uses three different data sources, so calculation of confidence intervals is not possible

Source: M. Davern (SHADAC) and CHI


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Summary of approaches to estimating income-eligibility for children (0-18 yrs)

	Standard CPS	CHI (CPS Dubai, et al. weight adjmt)	SHADAC (CPS Regression)	2005 SAHIE	Davern county estimates (ACS, CPS)	2008 CO Household Survey
Adjusts for Medicaid undercount?	✗	✓	✓	✗	✗	TBD
Total number of EBNE kids?	✓	✓	✓	✓	✓	✓
EBNE by Medicaid and SCHIP?	✓	✓	✓	✗	✓	✓
Further cross-tab possible? (e.g., by race/ethnicity)	✓	✓	✓	✗	✗	✓
For counties or regions?	✗	✗	✗	✓	✓	✓


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The challenge of translation

- No single data set currently meets all needs
- Constantly changing data landscape
- Explaining differences between estimates that derive from different data sources
- Assessing trends over time

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Questions/Discussion

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