

A Comparison of the Health Insurance Coverage Estimates from Four National Surveys

Presented by

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This work is taken from a larger report
coauthored along with

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- The full report contains multivariate analyses, cuts by age groups, and the 7 state surveys



Importance of survey estimates of health insurance coverage

- Survey estimates of health insurance coverage are used for a variety of important health policy research purposes
 - Congressional Budget Office (CBO) uses estimates to score legislation
 - Used to evaluate the effectiveness of public policy aimed at decreasing the number of uninsured
 - Used to allocate funds to states for the State Children's Health Insurance Program



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Four national surveys with health insurance coverage measures

- We examine four very different national surveys that have information about health insurance coverage.
 - Current Population Survey's Annual Social and Economic Supplement (CPS)
 - This is the most widely used and cited source
 - National Health Interview Survey (NHIS)
 - Medical Expenditure Panel Survey-Household Component (MEPS)
 - Survey of Income and Program Participation (SIPP)



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Four national surveys produce very different estimates of coverage

- All four have an estimate of the percent and number of people under 65 years of age who were uninsured throughout the entire year of 2002:
 - The range is from 17.2% (43.3 million) in the CPS to 8.1% (20.4 million) in the SIPP
 - Excluding the CPS the range is 4.8% (8.1% to 12.9%)
- Three surveys have an estimate of the number of uninsured at a point in time in 2002:
 - Range is 2.3% from 17.9% (45.1 million) in MEPS to 15.6% (39.3 million)

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Questions motivating our research

- Is the range in all year uninsured coverage estimates common among other domains (poverty, employment, education)
 - Why is all-year uninsured an outlier?
- Is the difference among the survey's rates in all year uninsured consistent across important covariates of health insurance coverage?
- Is the CPS consistently like a "point in time estimate" as currently interpreted by the CBO and many others?
 - The rate of 17.2 falls within the range of the other three survey's point in time estimate of coverage (which was 17.9-15.6)

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Methods

- We examine health insurance coverage estimates as well as other domains that the four national surveys have in common
- We examine health insurance coverage crossed by these other domains to see if a common pattern comes through cross-tabulations
- As much as possible we try to anchor estimates in calendar year 2002 (although this gets tricky)
 - We use the 2003 CPS, the 2001 SIPP panel, 2002 NHIS, and the 2001 MEPS Panel
- We only examine 0-64 year olds for this presentation but many other analyses contained within the full report



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Estimates from the four surveys for those 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
All Year Uninsured	17.2%	9.9%	7.3% ***	12.9%	4.3% ***	8.1%	9.1% ***	
Uninsured Point in Time	17.2%	15.6%	1.6% ***	17.9%	-0.7%	15.9%	1.3% ***	
Personal Characteristics								
Not Born in the US	12.6%	11.7%	1.0% ***	12.2%	0.5%	N/A	---	
Born in the US	87.4%	88.3%	-1.0% ***	87.8%	-0.5%	N/A	---	
Poor Health	7.9%	6.9%	1.0% **	8.4%	-0.5%	8.6%	-0.7% **	
At Least Good Health	92.1%	93.1%	-1.0% ***	91.6%	0.5% *	91.4%	0.7% ***	
Student 18-23 Years Old	4.5%	1.9%	2.6% ***	4.5%	0.0%	4.9%	-0.4% **	
No High School Diploma	12.9%	13.3%	-0.5%	17.0%	-4.1% ***	12.9%	-0.1%	
High School [^]	29.0%	27.5%	1.5% ***	31.3%	-2.3% ***	28.4%	0.6% *	
Some College [^]	29.5%	31.3%	-1.8% ***	24.1%	5.5% ***	31.7%	-2.2% ***	
College Graduate [^]	18.7%	18.1%	0.7% *	16.8%	2.0% ***	17.6%	1.1% ***	
Post-Bachelor's [^]	9.8%	9.7%	0.1%	10.9%	-1.1% **	9.3%	0.5% **	
Not Employed [^]	23.4%	20.1%	3.3% ***	20.1%	3.3% ***	19.3%	4.1% ***	
Employed Part-Time [^]	9.2%	12.7%	-3.4% ***	12.2%	-2.9% ***	10.6%	-1.4% ***	
Employed Full-Time [^]	67.4%	67.2%	0.1%	67.7%	-0.4%	70.0%	-2.7% ***	



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Estimates from the four surveys for those 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
Characteristics								
< 100% FPL	12.6%	13.2%	-0.7% *	12.3%	0.2%	14.1%	-1.5% ***	
100-125% FPL	4.1%	4.4%	-0.3%	4.0%	0.1%	4.5%	-0.4% *	
126-200% FPL	12.9%	13.0%	-0.1%	12.9%	0.1%	14.2%	-1.2% ***	
201-400% FPL	31.2%	31.0%	0.2%	32.0%	-0.7%	33.7%	-2.5% ***	
401+ % FPL	39.2%	38.4%	0.8%	38.8%	0.3%	33.6%	5.6% ***	
Single With Kid(s)	11.6%	12.9%	-1.3% ***	12.5%	-0.9% **	12.4%	-0.8% **	
Married Without Kids	22.7%	21.7%	1.0% **	22.1%	0.6%	22.1%	0.6% *	
Single Without Kids	17.1%	15.7%	1.4% ***	17.7%	-0.7%	16.9%	0.2%	
Married With Kid(s)	48.6%	49.7%	-1.1% *	47.6%	0.9%	48.5%	0.0%	
Receive SSI	1.5%	1.8%	-0.3% ***	1.7%	-0.3% **	2.3%	-0.8% ***	
Receive Food Stamps	7.1%	4.1%	3.0% ***	7.3%	-0.2%	6.7%	0.4% *	



Comparison of all year uninsured estimates from the four surveys 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
All Year Uninsured	17.2%	9.9%	7.3% ***	12.9%	4.3% ***	8.1%	9.1% ***	
Personal Characteristics								
Male	18.5%	11.1%	7.4% ***	14.4%	4.1% ***	9.1%	9.4% ***	
Female	15.9%	8.7%	7.2% ***	11.4%	4.5% ***	7.2%	8.7% ***	
Age 0-5	10.9%	4.0%	7.0% ***	5.1%	5.8% ***	3.8%	7.2% ***	
6-17	12.0%	6.1%	5.8% ***	8.2%	3.8% ***	4.9%	7.1% ***	
18-24	29.6%	17.2%	12.4% ***	22.0%	7.6% ***	14.2%	15.5% ***	
25-34	24.9%	15.3%	9.6% ***	18.6%	6.3% ***	12.3%	12.6% ***	
35-44	17.7%	11.0%	6.7% ***	14.0%	3.7% ***	8.3%	9.3% ***	
45-54	13.9%	8.9%	5.0% ***	12.2%	1.7% *	7.6%	6.3% ***	
55-64	12.8%	7.2%	5.7% ***	10.4%	2.4% ***	6.0%	6.8% ***	
Black	21.8%	10.9%	10.8% ***	13.2%	8.6% ***	9.7%	12.1% ***	
Other Race	20.1%	15.2%	4.9% ***	12.1%	8.0% ***	9.7%	10.3% ***	
White	16.2%	9.1%	7.1% ***	12.9%	3.3% ***	7.7%	8.5% ***	
Hispanic	34.0%	24.6%	9.3% ***	27.4%	6.6% ***	19.4%	14.6% ***	
Non-Hispanic	14.3%	7.6%	6.7% ***	10.4%	3.9% ***	6.2%	8.1% ***	



Comparison of all year uninsured estimates from the four surveys 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
Not Born in the US	36.0%	27.0%	9.0% ***	29.6%	6.3% ***	N/A	---	
Born in the US	14.5%	7.6%	6.9% ***	10.6%	3.9% ***	N/A	---	
Poor Health	19.5%	15.3%	4.2% ***	16.0%	3.5% ***	12.4%	7.1% ***	
At Least Good Health	17.0%	9.5%	7.5% ***	12.6%	4.4% ***	7.7%	9.3% ***	
Student 18-23 Years Old	18.4%	10.2%	8.2% ***	13.7%	4.7% ***	7.0%	11.3% ***	
No High School Diploma	35.8%	26.2%	9.6% ***	26.8%	9.0% ***	21.9%	13.9% **	
High School ^l	21.0%	12.2%	8.8% ***	14.3%	6.7% ***	10.6%	10.4% ***	
Some College ^h	14.3%	7.1%	7.1% ***	10.0%	4.3% ***	5.6%	8.7% ***	
College Graduate ^h	9.2%	3.4%	5.8% ***	6.3%	2.9% ***	2.3%	6.9% ***	
Post-Bachelor's ^s	5.8%	1.9%	3.9% ***	4.1%	1.8% **	1.1%	4.8% ***	
Not Employed ^f	24.5%	14.8%	9.7% ***	19.8%	4.7% ***	13.5%	11.0% ***	
Employed Part-Time ^h	21.8%	12.5%	9.2% ***	18.1%	3.6% ***	10.3%	11.4% ***	
Employed Full-Time ^h	14.1%	7.9%	6.1% ***	9.9%	4.1% ***	6.3%	7.8% ***	



Comparison of all year uninsured estimates from the four surveys 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
Characteristics								
< 100% FPL	33.6%	20.8%	12.8% ***	23.8%	9.8% ***	18.0%	15.7% ***	
100-125% FPL	33.5%	23.0%	10.5% ***	24.6%	8.9% ***	17.3%	16.2% ***	
126-200% FPL	28.2%	17.9%	10.3% ***	24.1%	4.1% ***	13.6%	14.6% ***	
201-400% FPL	16.2%	8.8%	7.4% ***	12.4%	3.8% ***	6.7%	9.5% ***	
401+ % FPL	7.4%	2.8%	4.6% ***	5.0%	2.5% ***	1.8%	5.6% ***	
Single With Kid(s)	20.3%	11.9%	8.4% ***	14.8%	5.5% ***	9.6%	10.8% ***	
Married With Kid(s)	13.7%	8.1%	5.6% ***	10.8%	2.9% ***	6.4%	7.4% ***	
Single Without Kids	26.0%	16.4%	9.6% ***	20.2%	5.8% ***	13.7%	12.3% ***	
Married Without Kids	16.5%	8.0%	8.5% ***	10.5%	6.0% ***	6.9%	9.5% ***	
Receive SSI	1.5%	2.7%	-1.2% *	2.7%	-1.3%	0.7%	0.8%	
Receive Food Stamps	19.7%	11.6%	8.1% ***	13.7%	6.0% ***	8.8%	10.9% ***	



Comparison of point in time uninsured estimates from the four surveys 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
Uninsured Point in Time	19.5%	18.0%	1.5% ***	20.5%	-1.0%	16.8%	2.7% ***	
Personal Characteristics								
Male	21.4%	20.0%	1.4% ***	22.4%	-1.0%	18.1%	3.2% ***	
Female	17.7%	16.1%	1.6% ***	18.7%	-1.0%	15.6%	2.1% ***	
Age 18-24	29.6%	27.5%	2.2% *	30.9%	-1.3%	27.8%	1.9% *	
25-34	24.9%	22.8%	2.1% ***	26.1%	-1.2%	21.1%	3.8% ***	
35-44	17.7%	16.8%	0.9%	18.7%	-1.1%	14.0%	3.7% ***	
45-54	13.9%	13.0%	0.9%	15.1%	-1.2%	11.8%	2.1% ***	
55-64	12.8%	10.4%	2.4% ***	12.9%	-0.1%	10.1%	2.7% ***	
Black	25.9%	22.7%	3.2% ***	24.8%	1.2%	23.1%	2.8% ***	
Other Race	23.9%	27.4%	-3.5% **	20.9%	3.0%	19.6%	4.3% ***	
White	18.2%	16.3%	1.8% ***	19.8%	-1.7% **	15.6%	2.6% ***	
Hispanic	40.3%	39.4%	0.9%	42.0%	-1.8%	38.2%	2.1% *	
Non-Hispanic	16.3%	15.1%	1.2% ***	17.2%	-1.0% *	13.6%	2.7% ***	



Comparison of point in time uninsured estimates from the four surveys 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
Not Born in the US	36.1%	33.4%	2.7% **	35.3%	0.8%	29.9%	6.2% ***	
Born in the US	16.3%	15.3%	1.0% ***	17.8%	-1.4% **	14.0%	2.3% ***	
Poor Health	20.4%	21.5%	-1.1%	23.7%	-3.3% **	21.3%	-0.9%	
At Least Good Health	19.4%	17.6%	1.8% ***	20.1%	-0.7%	16.2%	3.2% ***	
Student 18-23 Years Old	18.4%	16.0%	2.4%	20.1%	-1.7%	15.9%	2.5% *	
No High School Diploma	38.4%	37.6%	0.9%	36.5%	1.9%	38.2%	0.2%	
High School	22.9%	21.4%	1.5% **	22.0%	0.9%	20.6%	2.3% ***	
Some College	15.9%	15.0%	0.9% *	17.5%	-1.7% *	12.6%	3.3% ***	
College Graduate	10.7%	8.1%	2.6% ***	11.0%	-0.3%	6.2%	4.6% ***	
Post-Bachelor's	6.6%	4.6%	2.0% ***	6.8%	-0.3%	3.2%	3.4% ***	
Not Employed	25.9%	24.9%	1.1%	27.7%	-1.7% *	24.5%	1.4% *	
Employed Part-Time	23.3%	20.8%	2.5% ***	25.4%	-2.1%	19.9%	3.4% ***	
Employed Full-Time	15.7%	14.4%	1.3% ***	16.2%	-0.5%	13.1%	2.6% ***	



Comparison of point in time uninsured estimates from the four surveys 0-65

Variable	CPS		NHIS		MEPS		SIPP	
	Estimate	Estimate	Difference	Estimate	Difference	Estimate	Difference	
Characteristics								
< 100% FPL	42.4%	37.6%	4.8% ***	42.8%	-0.5%	40.7%	1.7%	
100-125% FPL	41.0%	41.1%	-0.1%	44.7%	-3.7%	36.8%	4.2% *	
126-200% FPL	34.4%	32.2%	2.2% *	39.7%	-5.3% ***	30.2%	4.2% ***	
201-400% FPL	19.2%	18.3%	0.9%	20.4%	-1.2%	14.6%	4.6% ***	
401+ % FPL	8.4%	6.5%	1.8% ***	8.0%	0.3%	4.5%	3.8% ***	
Single With Kid(s)	27.3%	29.1%	-1.7% **	30.9%	-3.6% *	28.9%	-1.6%	
Married With Kid(s)	16.5%	16.4%	0.0%	19.1%	-2.6% ***	14.8%	1.7% ***	
Single Without Kids	26.0%	23.8%	2.2% ***	27.0%	-1.1%	22.5%	3.5% ***	
Married Without Kids	16.5%	12.6%	3.9% ***	14.1%	2.3% **	11.9%	4.6% ***	
Receive SSI	1.4%	5.3%	-3.9% ***	6.7%	-5.3% ***	2.4%	-1.0%	
Receive Food Stamps	29.8%	26.3%	3.4% *	33.8%	-4.0% *	28.5%	1.3%	



Is the range in coverage estimates common among other domains?

- The all-year uninsured estimates are an outlier among the other domains examined.
 - Nothing else comes close as an absolute range of 9.1% -- and especially in terms of a relative amount (over half of the estimate).
- The three surveys with an explicit point in time estimate have much closer estimates
 - well within the range of “normal” survey to survey variation



Is there consistency among the all-year uninsured estimates across domains?

- The CPS is consistently the outlier with the highest rates of all-year uninsured across the domains examined
- The degree of difference can get rather dramatic for important policy relevant groups.
 - The CPS estimate is 33.6% of those below poverty lack insurance whereas for SIPP it's 18%.
 - This range of 15.7 percentage points is considerably higher than the 9.1% difference for the overall estimate
 - For those over 400% of poverty the difference between SIPP and CPS is only 5.6% points
- Indeed, the difference between the CPS estimate and other all-year uninsured estimates varies considerably across important domains of poverty age and education as well
- Conclusion: CPS is not a reliable measure of all-year uninsured

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Why are the all year uninsured estimates an outlier?

- Three known reasons why the CPS is a very poor measure of all year uninsured
 - Editing problems leading to too many uninsured made by the CPS
 - (this has been fixed)
 - Drops the estimate from 17.2% to 16.6%
 - Imputation problems leading to too many uninsured (this has not been fixed)
 - Will likely drop the estimate from 16.6 to 15.6
 - Still a large gap of 7.5% in all year uninsured estimates
 - Likely due to the difficulty associated with having long reference periods
 - Subject to recall loss (people failing to report insurance coverage they had early in the prior calendar year)
 - Substantial recall loss shown with Medicaid enrollees linked to the CPS who were only enrolled for part of the prior calendar year
 - Could also be seam bias over-reporting issues leading the SIPP to overcount insurance spells during any given calendar year

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Is the CPS a point in time uninsurance estimate?

- Comparing the CPS estimate to the:
 - NHIS point in time estimate across domains we see significant differences in 27 out of 38:
 - The NHIS consistently has a lower point in time estimate (with the exception of two domains -- other race and SSI receipt)
 - MEPS point in time estimate across domains we see we see significant differences in 13 out of 38 domains:
 - The CPS estimate appears to move in a fairly similar fashion to the MEPS
 - SIPP point in time estimate across domains we see we see significant differences in 26 out of 36 domains:
 - With SIPP we do not see such a strong degree of consistency across domains.
 - Sometimes SIPP is higher (for kids under 18) and sometimes lower (for adults 19-64)

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Is the CPS a point In time measure?

- The CPS is varies consistently across domains to the MEPS and NHIS point-in-time measures
- The CPS can look and act very much like a point in time measure (e.g., its comparisons with the MEPS)
- The CPS can look and act differently than a point in time measure (CPS to SIPP for example)
- The three surveys with the explicit point-in-time estimates sometimes have significant differences across domains
 - Explicit point in time estimates do not always agree

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Final thoughts on point in time interpretation

- The CPS is clearly a very poor measure of what it was supposed to measure (all year uninsurance). Interpreting it as something else it was not designed to measure should be done cautiously
 - There are likely a number of causal factors leading the CPS to mimic a point in time measure that may not always track an explicit point in time measure in a time series
 - (e.g., TennCare)
 - Known causes include editing, imputation and recall errors
- **Bottom line:** Using the CPS as a point in time measure is reasonable but be cautioned

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Conclusions—Part 1

- Examining differences across the surveys the range of estimates for all year uninsured is an outlier
- The CPS is not a well designed measure of all year uninsured
 - It does not vary in concert with other surveys across key health policy domains and it is considerably higher
 - This has important policy research implications (for example “eligible but uninsured estimates”)
- In general explicit point in time measures are best to use if possible for health policy purposes and are more reliable across surveys

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Conclusions– Part 2

- The CPS does seem to look much more like a point in time estimate in the aggregate and across several important domains
 - This is caused by a series of errors that may not always be in concert with the concept of “point in time insurance status”
 - This can cause problems for evaluating change over time when the change itself can make cause the CPS measure to change out of step with the point in time measure
- Proceed cautiously when working with the CPS



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