Defining "Family" for Studies of Health Insurance Coverage

Introduction

The 2010 Patient Protection and Affordable Care Act (ACA), which represents the most significant change to the health care system since the introduction of Medicaid and Medicare, has brought a host of new analysts and researchers into the realm of health services research. While this offers many benefits to the design, implementation, and evaluation of health reform initiatives at the state and national level, it will also no doubt lead to conflicting estimates and assessments, both across data sources and for work based on the same data source. It is our experience that many of those conflicts will reflect differences in definitions and assumptions, in some cases explicit and in some cases implicit, as when researchers rely on existing measures of family composition or family income in national surveys.

In this brief we describe an important decision that should be considered in analyses of health insurance coverage using survey data: Defining the "family unit" for examining insurance coverage, often called the health insurance unit. We propose a general definition of the health insurance unit and provide Stata and SAS code to facilitate implementing that definition.

Defining the Health Insurance Unit

Health insurance coverage, whether through an employer or a public program, is often based on family relationships. An individual with access to employer-sponsored coverage may be able to cover his or her spouse and children through that policy. Public coverage often considers family ties in determining program eligibility, especially for children and families. Many analysts and researchers have adopted the use of a "health insurance unit" (HIU) in studying insurance coverage so as to focus on those individuals who would likely be considered a "family unit" in determining eligibility for either private or public coverage.

The HIU is often quite different from the Census definition of a family or a household used in many surveys. For example, household units – as the name suggests – consist of all individuals currently residing in a sampled household, regardless of interrelationships among members. The Census Bureau's definition of family includes all *related* members of a household. This would include parents and their children along with any other related individuals who are living with them (e.g., grandparents, adult siblings, aunts/uncles, niece/nephews, cousins). Because the HIU is based on a narrower definition of family than that used by the Census Bureau, it is not uncommon to have multiple HIUs within a household or even within a "family" as defined by the Census Bureau.

Unlike easily accessible data on Census family or household units, construction of an HIU is more complicated as it requires information on family interrelationships within the household. We take advantage of work by the Minnesota Population Center[1] that constructed family interrelationship measures for the American Community Survey (ACS), the Current Population Survey (CPS), and the National Health Interview Survey to develop an HIU definition that is easily constructed and replicable across those data sources. The SHADAC HIU, while intended to be broadly consistent with the family unit that is relevant for public and private insurance units, can be easily tailored to the specific criteria used in individual states or programs. For example, in determining Medicaid eligibility states make different decisions on which adults in the household qualify as a caretaker. Similarly, states have different rules for the ages at which adult children can be covered under a parent's private insurance plan.

The SHADAC HIU aims to capture the key components of both "public" and "private" HIUs in a single measure. Under private coverage, individuals in the household who could be covered under one private insurance policy (e.g., the policyholder, policyholder's spouse, children under age 19 to 26 [depending on the state and year][2]) are typically considered an HIU. For public coverage, the HIU would include all those who would be considered a "family" in determining eligibility for Medicaid and CHIP (e.g., parent or guardian and children under age 19 to 21 [depending on state and year]). We implement a HIU definition that applies the following assignment rules:

- Single adults with no children of their own living with them are assigned to their own HIU;
- Married couples, regardless of age, with no children of their own living with them are assigned to their own HIU;
- Single or married parents, regardless of age, along with their eligible children[3] are assigned to an HIU;
- Eligible children with no parent in their household, but who are related to the household reference person, are placed in the first HIU in the household;
- Eligible children with no parent in the household and who are not related to the household reference person are placed in their own HIU.

The Stata and SAS code for constructing the HIU in the CPS and ACS are available at http://www.shadac.org/publications/defining-family-studies-health-insurance-coverage.

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[1] Information on the methodology used to construct family interrelationship variables is available from the Integrated Public Use Microdata Series (IPUMS) project at the Minnesota Population Center, http://usa.ipums.org/usa/chapter5/chapter5.shtml.

[2] Changes under the ACA implemented in September 2010 now require all insurance plans to cover dependents up to age 26, regardless of state (and financial, marital, or student status). However, state variation may still exist because in certain cases state-level reforms implemented prior to the ACA mandate coverage for dependents over and above the ACA age maximum.

[3] Eligible children are children under age 19 who are not married and have no children of their own.

Implications of using the HIU in Analyses

Framing an analysis around the HIU rather than the Census definition of the family can have a significant impact on study findings. We illustrate the importance of the unit definition by examining differences in the proportion and number of non-elderly adults (19-64) falling within three categories of federal poverty guidelines (FPG) relevant to the ACA: At or below 138%[4] FPG – the new national income eligibility guidelines for most non-elderly adults under 2014 Medicaid program expansions; 139-399% FPG —the income level at which most individuals will be eligible for health insurance exchange-based subsidies; and at or above 400% FPG. For this analysis, we construct measures of family income and HIU income, where family income includes the income of all related individuals in the household and HIU income includes the income of all individuals in the same HIU. We compare those income measures to the poverty guidelines for a unit of the appropriate size to identify family and HIU income relative to poverty.[5] We present the comparisons based on the American Community Survey; tabulations based on other surveys generate similar results.

As shown in Exhibit 1, the HIU definition yields much higher estimates of the number of non-elderly adults in poverty. Of importance to assessing the impact of the ACA – in particular the 2014 Medicaid expansions – we find around 16 million more non-elderly adults with incomes at or below 138% FPG under the HIU definition as compared to the Census family definition, a substantial difference of 8.9 percentage points.

Exhibit 1. Assessing the implications of alternative "family" definitions on 2014 Medicaid eligibility for non-elderly adults, 2010 weighted estimates

Family income as % of federal poverty	Census family definition (FPG)		SHADAC HIU definition		Difference	
	Count (000s)	Percent	Count (000s)	Percent	Count (000s)	Percentage point difference
At or below 138% FPG	37,298	20.1%	53,766	29.0%	16,468	8.9
139% to 399% FPG	75,049	40.6%	67,387	36.3%	-7,662	-4.1
400% FPG and above	73,144	39.4%	64,338	34.7%	-8,806	-4.7

Source: 2010 American Community Survey, Public Use Microdata Sample, non-institutionalized population ages 19-64

Exhibit 2 shows the implications of using the Census family and HIU definitions across the states to estimate the share of non-elderly adults with incomes at or below 138% FPG. Similar to the results on a national level, we find that relying on the Census definition of family leads to fewer non-elderly adults estimated to be eligible for Medicaid across the states relative to estimates based on the HIU. The number of adults eligible for Medicaid is up to 12 percentage points higher using the HIU in the states. As shown in Exhibit 3, some states see relatively small differences in estimates on the number of adults below 138% FPG based on HIU and Census family definitions, while others see differences of more than 1,000,000 adults.

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[4] The 138% FPG reflects a 5 percentage point income disregard under the ACA. See http://www.shadac.org/blog/aca-note-when-133-equals-138-fpl-calculations-in-affordable-care-act for a discussion of this disregard.

[5] We use the poverty guidelines for this comparison rather than the poverty thresholds since we are focused on program eligibility. See http://www.shadac.org/blog/fpg-vs-fpl-whats-difference for a discussion of the differences between poverty guidelines and thresholds. This choice of poverty standards is another decision that can lead to differences across otherwise similar studies.
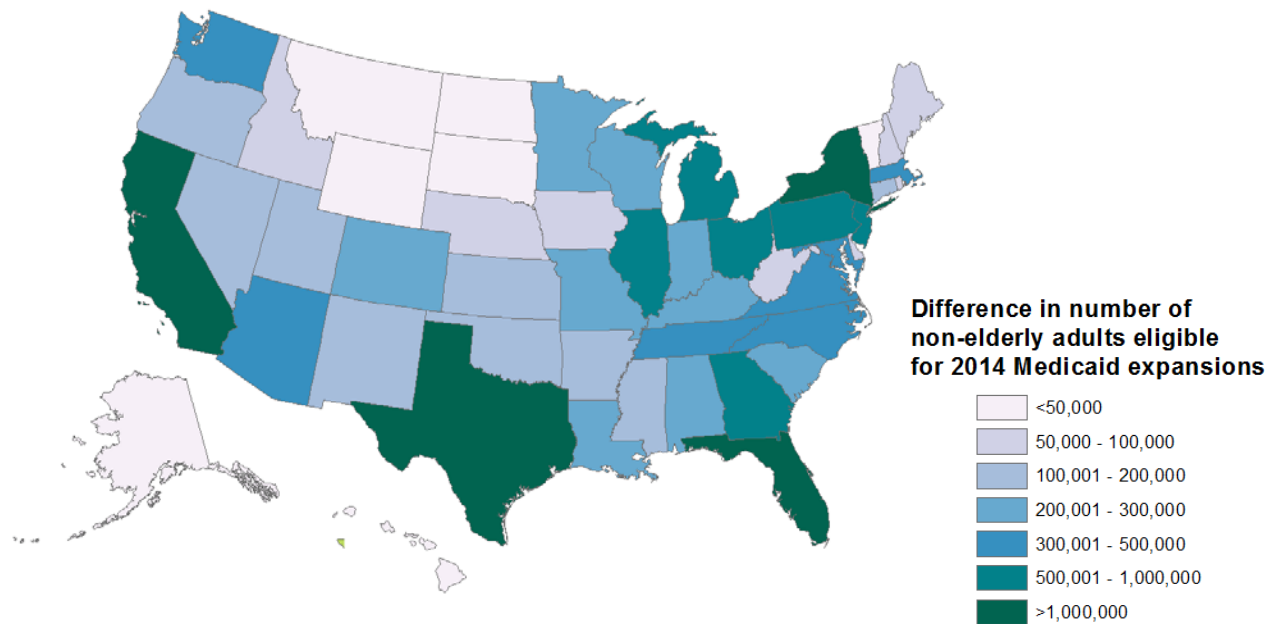
Exhibit 2. Assessing the implications of alternative "family" definitions on 2014 Medicaid eligibility for non-elderly adults across states, 2010 weighted estimates

| | Non-elderly adults at or below 138% federal poverty guidelines (FPG) | | | | | |
| | Census family definition | | SHADAC HIU definition | | Difference | |
State	Count	Percent	Count	Percent	Count	Percentage points
United States	37,298,054	20.1%	53,766,247	29.0%	16,468,193	8.9
Alabama	701,394	24.7%	969,311	34.1%	267,917	9.4
Alaska	89,758	20.0%	116,258	25.8%	26,500	5.9
Arizona	897,051	24.2%	1,208,409	32.6%	311,358	8.4
Arkansas	429,493	25.3%	567,132	33.4%	137,639	8.1
California	4,746,070	20.9%	7,326,338	32.2%	2,580,268	11.3
Colorado	555,965	17.8%	768,101	24.6%	212,136	6.8
Connecticut	284,074	13.3%	462,072	21.6%	177,998	8.3
Delaware	80,771	15.0%	144,909	27.0%	64,138	11.9
District of Columbia	85,287	21.4%	116,703	29.2%	31,416	7.9
Florida	2,505,850	22.7%	3,635,587	32.9%	1,129,737	10.2
Georgia	1,350,358	23.0%	1,893,011	32.3%	542,653	9.3
Hawaii	133,747	16.3%	221,261	27.0%	87,514	10.7
Idaho	207,843	23.0%	270,697	29.9%	62,854	7.0
Illinois	1,398,723	18.1%	2,117,650	27.3%	718,927	9.3
Indiana	781,575	20.4%	1,076,261	28.1%	294,686	7.7
Iowa	315,083	17.7%	404,988	22.8%	89,905	5.1
Kansas	305,900	18.4%	417,927	25.1%	112,027	6.7
Kentucky	640,656	24.5%	848,365	32.5%	207,709	8.0
Louisiana	620,175	22.8%	873,939	32.2%	253,764	9.3
Maine	147,656	18.3%	197,691	24.5%	50,035	6.2
Maryland	457,169	12.8%	796,599	22.4%	339,430	9.5
Massachusetts	595,596	14.9%	912,857	22.8%	317,261	7.9
Michigan	1,294,451	21.9%	1,840,515	31.1%	546,064	9.2
Minnesota	479,215	14.9%	684,652	21.3%	205,437	6.4
Mississippi	489,047	28.5%	648,338	37.7%	159,291	9.3
Missouri	736,618	20.8%	1,000,862	28.2%	264,244	7.5
Montana	118,656	20.2%	151,284	25.8%	32,628	5.6
Nebraska	183,562	17.1%	255,111	23.8%	71,549	6.7
Nevada	319,807	19.4%	458,178	27.8%	138,371	8.4
New Hampshire	94,983	11.7%	149,350	18.5%	54,367	6.7
New Jersey	699,331	13.1%	1,230,765	23.1%	531,434	10.0
New Mexico	313,400	25.8%	422,496	34.8%	109,096	9.0
New York	2,255,847	19.0%	3,399,503	28.6%	1,143,656	9.6
North Carolina	1,323,949	23.1%	1,763,054	30.7%	439,105	7.7
North Dakota	65,694	16.2%	84,390	20.9%	18,696	4.6

	Non-elderly adults at or below 138% federal poverty guidelines (FPG)					
	Census family definition		SHADAC HIU definition		Difference	
State	Count	Percent	Count	Percent	Count	Percentage points
Ohio	1,390,181	20.3%	1,947,271	28.4%	557,090	8.1
Oklahoma	489,703	22.4%	650,205	29.8%	160,502	7.3
Oregon	521,487	22.2%	685,332	29.2%	163,845	7.0
Pennsylvania	1,323,165	17.6%	1,947,735	25.9%	624,570	8.3
Rhode Island	119,578	18.8%	174,615	27.4%	55,037	8.6
South Carolina	663,317	24.1%	904,182	32.8%	240,865	8.7
South Dakota	90,612	19.4%	113,361	24.3%	22,749	4.9
Tennessee	877,537	23.0%	1,216,427	31.9%	338,890	8.9
Texas	3,361,085	22.5%	4,737,574	31.7%	1,376,489	9.2
Utah	294,964	18.7%	430,877	27.3%	135,913	8.6
Vermont	63,906	16.8%	84,619	22.3%	20,713	5.5
Virginia	735,443	15.0%	1,139,056	23.2%	403,613	8.2
Washington	750,196	18.0%	1,051,243	25.3%	301,047	7.2
West Virginia	280,302	25.3%	373,474	33.7%	93,172	8.4
Wisconsin	583,552	17.1%	807,035	23.6%	223,483	6.5
Wyoming	48,272	14.2%	68,677	20.1%	20,405	6.0

Source: 2010 American Community Survey, Public Use Microdata Sample, non-institutionalized population ages 19-64

Exhibit 3. Implications of alternative "family" definitions on 2014 Medicaid eligibility for non-elderly adults: HIU-level poverty vs. Census family-level poverty, ACS 2010 weighted estimates

Difference in number of non-elderly adults eligible for 2014 Medicaid expansions

- <50,000
- 50,000 - 100,000
- 100,001 - 200,000
- 200,001 - 300,000
- 300,001 - 500,000
- 500,001 - 1,000,000
- >1,000,000

Source: 2010 American Community Survey, Public Use Microdata Sample, non-institutionalized population ages 19-64

Discussion

Simple decisions made by analysts when analyzing health insurance coverage can lead to substantially different conclusions. This policy brief highlights the importance of defining the family unit or health insurance unit. Traditional definitions of these family units tend to overestimate the number of individuals belonging to units for eligibility purposes, thus we encourage researchers and analysts to implement HIUs in any analyses examining private or public coverage eligibility.

As we have demonstrated in this policy brief, estimates of the number of non-elderly adults in poverty based on the HIU vs. Census family unit lead to substantially different conclusions. In fact, under the proposed HIU definition, we estimate 16 million more non-elderly adults in poverty than under the more common Census family unit. We also find substantially different estimates across states. The policy implications of estimates varying in the millions are great for both states and the federal government.

The interactive, easily accessible SHADAC Data Center online table generator (www.shadac.org/datacenter) now offers estimates of insurance coverage for several variables at the SHADAC HIU level (e.g., income, education, and work status), both nationally and across states. As noted above, we also make the Stata and SAS code for constructing the SHADAC HIU available so that analysts who choose to can easily modify the HIU definition.

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About SHADAC

The University of Minnesota's State Health Access Data Assistance Center (SHADAC) is funded by the Robert Wood Johnson Foundation to collect and analyze data to inform state health policy decisions relating to health insurance coverage and access to care. For information on how SHADAC can assist your state with small area estimation or other data issues relevant to state health policy, please contact us at shadac@umn.edu or call 612-624-4802.