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California's Uninsured and Medi-Cal Populations: A Policy Guide to the Estimates

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Background

Ask three different people how many of California's residents are uninsured and there will likely be three different responses. Until a couple of years ago, most estimates of the uninsured population in California were derived from one source—the Current Population Survey (CPS) conducted by the Bureau of the Census for the Bureau of Labor Statistics. More recently, the California Health Interview Survey (CHIS)—a collaborative project of the UCLA Center for Health Policy Research, the California Department of Health Services, and the Public Health Institute—has been implemented with a large sample size and a wealth of health-related information. While the advent of CHIS has certainly increased the amount of information available about health and health insurance in California, the two surveys offer strikingly different estimates of the size of California's uninsured and Medi-Cal populations.

While there are a number of methodological reasons for these differences, from a practical perspective, these disparate estimates are confusing to users, particularly policymaker and advocates not well-versed in survey methodology and trying to formulate concrete policy solutions. This guide is intended to provide specific advice to people who need to use these estimates on a frequent basis, but do not have the time or expertise to sort out the methodological nuances. This guide outlines specific circumstances in which it is advisable to use a given data set. Some of the difficulties encountered in using these data sets to analyze a real-world policy change—California's Health Insurance Act of 2003 (SB 2)—are also described.

In preparing this guide, interviews were conducted with California legislative and government staff, journalists, and consumer health advocates to learn more about how they use available information in their day-to-day work and decision-making. Empirical analyses were conducted using three different surveys—the Current Population Survey (CPS), the California Health Interview Survey (CHIS), and the National Health Interview Survey (NHIS)—to understand more fully where the differences are found.

Overview of the Differences in Estimates
of the Uninsured and Medi-Cal Populations

Statewide estimates of the uninsured and Medi-Cal populations differ depending on which survey is used and which time period is examined, as shown in Table 1. The most commonly used is the 'point-in-time' estimate, which provides a snapshot of the population's insurance status at one point in time. One can also measure how many people are uninsured for some period of time during the year (even if they started out insured or become insured later on) or how many people stay uninsured for a full year.

Using either the 'point-in-time' or the 'all year' estimate, both of the national surveys result in substantially higher estimates of the uninsured than one gets from CHIS. For estimating Medi-Cal enrollment, the surveys also give different estimates, with CHIS resulting in a higher figure than the national surveys.

Table 1. Estimates of the Uninsured and Medi-Cal Populations, California, 2001		
	Percent Uninsured	**Percent Medi-Cal**
Point-in-Time		
CHIS	14%	15%
NHIS	18%	11%
All Year		
CHIS	11%	not available
CPS	18%	12%*

Note: 'Point-in-time' refers to insurance status at the time of the interview. 'All year' refers to insurance status throughout the entire past year.
* The CPS Medi-Cal estimate refers to anyone who is enrolled for any period during the year.

These differences may be explained by differences in the design and implementation of the surveys. Some important differences are:

- **Interviewers for CPS and NHIS interview respondents in person, while CHIS respondents are interviewed over the telephone.**
  - People without telephone service—thereby excluded from the CHIS survey —are likely to be poorer, less likely to be working, and less likely to have health insurance. Statisticians can correct for some of the problems this causes by giving larger sampling weights to some groups than others (i.e., those persons who are least likely to be represented), but it is difficult to determine whether the problem is fully corrected.
  - In-person interviews allow the interviewer to examine the respondent's health insurance card and verify that the coverage is current and is true health insurance rather than a plan that covers only one type of service, such as dental care or cash for hospitalizations. NHIS interviewers check the respondent's insurance card and also record the insurer's name and cross-check it with a list of health insurers.
  - Telephone interviews also tend to result in lower response rates. Since the sample of persons is selected to be representative of the target population, a lower response rate may mean that certain segments of the population are not well represented. It has generally been accepted that, all other things being equal, higher response rates result in higher quality data. Response rates in both NHIS and CPS (usually upwards of 85 percent) are substantially higher than that in CHIS (approximately 37 percent).

- **CHIS collects information concerning *only* the respondent (plus one child less than age 12 and one adolescent aged 12 to 17); CPS and NHIS gather information from one respondent about *all* family members (children and adults).** There is some evidence that reporting for another person is not as accurate as reporting for oneself.

- **Questions about insurance status can be structured differently.** Surveys may vary in how directly questions about insurance coverage are asked, types of coverage may be asked about in different orders, and questions can refer to different time periods. While it is clear that the CPS questions about insurance coverage ask about the entire previous calendar year, some analysts interpret the responses as being about the time of the interview (point-in-time estimates). NHIS asks the respondent if they had coverage at the time of the interview. CHIS asks about coverage in three different ways—at the time of the interview, for the entire past year, and at any time during the year. Different time periods and varying structures make it difficult to compare estimates across surveys.

As part of the analysis, the estimates for CPS and CHIS were compared for different population groups. In understanding the survey estimates, it is important to know if the differences in the estimates are similar across population subgroups. The statewide CHIS uninsured rate (the point-in-time estimate) is about three-quarters of the statewide CPS uninsured rate; this discrepancy could signal a problem with the composition of the sample. For example, if immigrants are more likely to be uninsured than non-immigrants and too few immigrants are included—either because too few are interviewed or their weights are too small—then the estimated uninsured rate will be lower than it should be. From the variables examined, it appears that only a relatively small amount of the differences in the estimates could be accounted for by differences in the composition of the survey samples.

Table 2 shows the ratio of the CPS estimate to the CHIS estimate for both the percent of the population uninsured and the percent enrolled in Medi-Cal, for a number of population sub-groups. Here, the CPS estimate is viewed as a point-in-time (rather than an all-year) estimate. While this does not eliminate the difference between the estimates, it is the most conservative approach and minimizes the size of the differences. The important thing to note is that if the CPS and the CHIS estimates for a sub-group were identical, then the ratio would be equal to one. If the ratio is much bigger or much smaller than one, then the two surveys are giving very different estimates. The estimates for children are farther apart in the two surveys than are the estimates for adults.

Table 2. Ratio of CPS estimate to 'Point-in-Time' CHIS estimate		
	Uninsured	**Medi-Cal**
Children (<18)	1.6	1.0
Children (<6)	2.2	0.9
Recent Immigrants (<18)	1.0	1.0
Adults	1.2	0.7
Black Adults	1.5	0.5
Los Angeles County (adults)	1.2	0.6

Note: 'Point-in-time' refers to the time of the interview of current insurance status. For the purposes of this analysis, CPS estimates are interpreted as referring to a 'point-in-time.'

From this analysis, there is no way to determine that one survey is right and another survey is wrong. Neither is there a gold standard against which to benchmark the estimates, particularly for the estimates of the uninsured. With respect to Medi-Cal enrollment, there is a gold standard in the state health department administrative records.[i] The accuracy of reporting for Medi-Cal is important for estimates of the uninsured. If one survey did a better job of getting people to accurately report being enrolled in Medi-Cal (or having private coverage), then this would have a direct impact on the estimate of the uninsured.[ii]

Recommended Approach to Using the Estimates of the Uninsured

It appears most likely that CPS and NHIS over-estimate the number of uninsured and that CHIS under-estimates the number of uninsured. As a practical solution, in general, it may be preferable to use the range of estimates (for example saying that the percent of Californians without insurance is between 14 and 18 percent), rather than relying on one particular estimate.

Each of the surveys has different strengths and limitations and each has a unique contribution to offer in making policy decisions. The following are scenarios that individuals or organizations might come across in the course of their work.

County or MSA estimates. Many local consumer organizations regularly produce profiles of their community to inform and educate local officials. These profiles often include information on the composition of the local population—demographics, economic status, and often health insurance coverage. In this situation—where local

information is critical—the only available data source is the CHIS. CHIS has information for almost all of California's counties and for each of the state's MSAs. While the data represent the best information available, these local estimates may be subject to the same potential undercount as the statewide estimates.

Relative estimates. If one wants to compare *relative* rates of uninsurance or the *relative* number of uninsured in two California counties, for example, estimates of CHIS can be used as is because both estimates appear to be low to the same extent.

Absolute estimates. If the absolute size of the estimate is important—for example, in projecting how many people will be affected by a new policy initiative—the suggestion would be to extrapolate to form a range where the lower bound estimate is from CHIS and the upper bound estimate is what a CPS or NHIS estimate would look like if it were available.

Using the statewide figures, for the overall population (all ages), the idea would be to multiply the CHIS estimate by 1.3, for children 1.6, and for adults 1.2 to get this upper bound estimate. As an illustration, CHIS indicates that, in San Diego County, 13.8 percent of the population is uninsured; then multiply 13.8 by 1.3 to get 17.9. It would then be possible to report that the percent of the population that is uninsured in San Diego County is between 13.8 and 17.9 percent. (Note that these multipliers will change from year to year with the survey results.[iii])

Comparisons with other states. It is always best to make comparisons using the same data source. If one wants to make comparisons to the nation as a whole or to other states, it makes sense to use one of the national surveys.

An example would be to compare Texas' allocation with California's allocation for the State Children's Health Insurance Program. Using CPS (which is what the federal government uses in this allocation), California had approximately 1.1 million children who would be counted as part of the allocation formula[iv] in 2000 and Texas had about 900,000. If CHIS were used to calculate the California number of children in need, the number would be something less than 800,000 children.

Even if the CHIS estimate were accurate, the California allocation (using CHIS) would be artificially low relative to the Texas allocation (using CPS). By using one national survey for all of the states, it is more likely that the results will be more equitable for both Texas and California.

Changes over time. Both CPS and NHIS have been collecting health insurance data for a number of years and can be used to study trends. At some point, each of these surveys has had a major design change that might make part of the long-term trend somewhat confusing. As a relative newcomer, CHIS has only one year of data thus far but will be suitable for trend analysis in the future.[v] Regardless of which survey is used, it is important to stay with the same survey for all of the years of interest—using different surveys for different years could present a very inaccurate picture.

Even using any one survey, it can be difficult to detect changes in the number of uninsured over time, because survey results are not always tabulated quickly and because sample sizes often are too small to detect change. In order to be comfortable that one is observing a real trend, it is recommended that the data can be observed moving in the same direction for at least two years (i.e., either up or down). Confidence in the trend would also be strengthened by seeing that the same change was observed in more than one survey.

Population sub-groups. It is frequently of interest to make estimates for a particular sub-group of the population—for example, the number of African American children or the percent of workers who are uninsured. The analysis of data from the three surveys indicates that there are wider gaps between the estimates for certain groups than for the population overall. For statewide estimates, one can always use the range, with the CHIS estimate as the lower bound and the CPS estimate as the upper bound. If both estimates are not available—for example, if a county estimate is not available from NHIS or CPS—an upper bound estimate can be obtained by multiplying the CHIS estimate by 1.3 for all ages, 1.6 for children, and 1.2 for adults (as described above under county or MSA estimates).

Table 3. Guide to Estimates of the Uninsured		
Issue	**Recommended Survey**	**Comments**
National/State Comparisons	CPS or NHIS	Important for comparability.
Sub-State Estimates	CHIS	When absolute size matters, use CHIS as the lower bound and, to get an upper bound, multiply the CHIS estimate by 1.29 for all ages; 1.6 for children; and 1.22 for adults.
Trends	CPS, NHIS (or CHIS when additional years of data are available).	Confirm trend by observing either up or down movement for at least 2 years in a row.
Selected Groups Children	Use range, with CHIS as lower bound and NHIS or CPS as upper bound.	CHIS estimates of uninsured children are relatively lower than other estimates.
Adults	Use range, with CHIS as lower bound and NHIS or CPS as upper bound.	The three surveys are more closely aligned for adults, so any of the estimates would be appropriate.

Disparities in Data: SB 2 As a Case in Point

The recent passage of California's Senate Bill 2 (SB 2), the Health Insurance Act of 2003, is exemplary of the need to understand how policy changes affect the number of uninsured. Each of the three surveys discussed in this guide offers critical data items for estimating the impact of this legislation and, at the same time, each of the surveys is missing important elements that would be useful in gaining a clearer understanding of the bill's effects.

Which estimate of the uninsured is relevant to estimating the effect of SB 2? Since the bill would be ongoing, estimates of how many people are affected would need to take into account the bill's impact on anyone who is uninsured at all during the year. Of course, to be eligible under SB 2, a worker not only needs to be uninsured but to be working in a firm with 20 or more employees; however, job status information is only collected for the time of the interview. Thus, point-in-time estimates of the uninsured must be used, which may leave out some small number of affected persons.

To understand the impact of SB 2, in addition to knowing whether a respondent is uninsured, the following data are also needed for each respondent to the survey:

- Whether they are employed (not self-employed), including the number of hours worked per month, and whether they have been at their jobs for at least three months;
- The total number of employees in the firm where they work *who are California residents*, within the categories used in the legislation (fewer than 20 workers; 20-49; 50-199; 200+); and
- The number of dependents for each worker, including spouse, children under 18 years of age, and children 18-22 attending school full-time, and insurance status for each dependent.

It is not entirely clear whether it is necessary merely to know if the worker is uninsured or whether it is important to know if the worker had coverage available through his or her employer (i.e., whether the employer offers coverage to any employees; and whether the worker is eligible for offered coverage). These latter indicators are important if workers can choose, under the legislation, to opt out of coverage. If so, workers who previously turned down offers of coverage might continue to do so and would not be affected by the new policy.

Table 4 provides an overview of the required data elements available from each of the surveys. All three surveys provide information as to whether or not the respondent is currently employed. Each of the surveys also provides information on some job characteristics. NHIS asks about the total number of hours usually worked at *all* jobs,

Table 4. Estimating the Impact of SB 2 comparison of surveys			
	CHIS	**CPS**	**NHIS**
Employed?	Yes	Yes	Yes
No. Hours/month	Yes, all jobs.	Yes, all jobs.	Yes, all jobs.
At job 3+ months	Yes	No	At job one year or more
No. dependents	Data generally not collected for spouses or all dependent children	Yes	Yes
No. CA employees	National firm size; categories differ from bill.	National firm size; available for sub-sample; categories differ from bill.	Establishment size (respondent's job location); available for sub-sample; categories differ from bill.
Offer?	Yes	Last collected in 2001; different supplement than insurance status so difficult to link.	Yes
Eligible?	Yes		Yes

but does not ask about length of time at a specific job. CPS also collects information on hours worked at all jobs combined and does not gather data on job tenure. Because CHIS collects information on only selected persons within the household, it is difficult to estimate the number of dependents per worker from CHIS. This can be done more easily using either CPS or NHIS. All of the surveys collect data on firm size, though the categories do not necessarily fit those in the legislation. In addition, the bill classifies firms based on the number of employees *in California* rather than nationwide. It is not clear how much this incongruity affects the estimates. All three surveys ask about whether the worker has job-related coverage available, though the information from CPS is not asked on a regular basis and is somewhat difficult to use.

Even with the appropriate data elements from each of the surveys, the estimates of the impact of SB 2 will vary because the underlying estimates of the uninsured are so different. Persons on both sides of the issue should view estimates of the number of people likely to be affected by SB 2 as part of a range.

Conclusion

Survey data are essential to informed policy decisions; yet, at the same time, data can be confusing and difficult to interpret. Data on the uninsured from different surveys can give contradictory and inconsistent results for a number of reasons, including different approaches to sampling, different interviewing procedures, or variation in question wording. Since even an experienced research analyst can find it difficult to understand the importance of each of these factors and their effect on the survey estimates, this guide offers practical recommendations to using recent estimates on the uninsured from the Current Population Survey and the California Health Interview Survey. Depending on what specific questions are asked, surveys also vary in their usefulness for addressing the effects of a given policy change, illustrated above with SB 2. Perhaps one take-away message is that, with the variation in the quality of surveys, the data are subject to considerable uncertainty and estimates should always be viewed as approximations. When two surveys support each other, analysts can feel most confident in the results. Despite these limitations, survey data allow analysts to better understand the state of the health care delivery system, existing gaps and strengths, and the potential effects of policy changes. As long as these data are used carefully and thoughtfully, they increase the ability of policymakers to make solid, evidence-based decisions to improve health care.

Endnotes

[1] Findings pertinent to this issue should be forthcoming from a RAND study being conducted for CHCF. From a conversation with the RAND analyst, it appears that under-reporting for Medi-Cal is substantial and, if corrected, may have a large impact on the count of the uninsured.

[2] There is, in fact, some evidence that Medi-Cal enrollment is significantly under-reported in CPS. The degree of under-reporting suggests that there is likely to be under-reporting in the other two surveys as well.

[3] A similar multiplier can always be calculated by taking the ratio of estimates from two different surveys, for any population group.

[4] The federal government counts children under the age of 19 who are part of families with incomes less than 200 percent of the federal poverty level and who are uninsured.

[5] The second year of CHIS data will be available in fall of 2004.