County of Los Angeles Public Health

2011 LOS ANGELES COUNTY HEALTH SURVEY (LACHS) METHODOLOGY CHANGES: FAQs

What are the major changes made to the 2011 LACHS?

Two methodology changes were implemented to maintain the accuracy and representativeness of the data collected. In the previous survey cycles, we only conducted interviews among households with landline telephones. In contrast, we conducted interviews via both landline and cellular telephones in the 2011 survey, and for the first time, we were able to reach households that only use cell phones.

The second major change is that we adopted a more sophisticated raking procedure in weighting the survey. In previous survey cycles, age, gender, race/ethnicity, Health District, and Service Planning Area were used in the weighting. In the 2011 LACHS we also included nativity, citizenship, education, marital status, and home ownership. Additionally, with the inclusion of cell phone users in the 2011 survey sample, phone sources (landline vs. cell) were accounted for as well.

Since cell phone interviews were not included in previous surveys, a proxy measure was used: those households who reported not having a landline for a month or more in the past 3 years, but who did have cell phone service during that time, were weighted up to address the non-coverage issue.

Why were cell phone users included in the survey?

Cell phone interviews were added to the 2011 LACHS to maintain survey coverage and validity. The proportion of cell phone users and cell phone only households has been increasing, and this increase is likely to continue. The percentage of cell phone only households was estimated to be 21.7% in Los Angeles County in 2010.[1]

Adults who live in cell phone only households have been shown to differ demographically from those living in households with landlines, with higher representation among younger age groups, certain racial/ethnic groups, and those with lower socioeconomic status.[2] Including cell phone interviews increases the proportion of interviews conducted among these respondents.

1. *Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, January–June 2011. National Center for Health Statistics. December 2011. Available from: http://www.cdc.gov/nchs/nhis.htm.*
2. *Lin MW, Battaglia MP, Frankel MR, Osborn L, and Mokdad, AH. Reaching the U.S. cell phone generation: Comparison of cell phone survey results with an ongoing landline telephone survey. Public Opinion Quarterly 2007;71:814-39.*

Why were changes made to the weighting procedure?

Due to declining survey response rates, including only age, gender, race/ethnicity, and geographic location in the raking procedure might not sufficiently address non-response bias. Research has shown that including more demographic factors in the raking procedure improves survey estimates.[3] Furthermore, the procedure does not require demographic information for small geographic areas, as was used in the past. In addition, phone sources (landline vs. cell) should be accounted for in the raking procedure since both cell phone and landline users were sampled.

How will these two changes affect estimates?

These two changes are similar to changes the CDC recently made to their 2011 Behavioral Risk Factor Surveillance System (BRFSS) survey, although the weighting methods used in the prior BRFSS and LACHS differ. Prior BRFSS cycles used a procedure called post-stratification for weighting.

Although different weighting procedures were used, similar demographic factors including age, gender, and race/ethnicity, were included in prior cycles of both the BRFSS and LACHS. In 2011, the BRFSS and LACHS methodologies are more similar; both included cell phone interviews and used similar raking procedures.

The CDC has conducted comprehensive analyses to assess how including cell phone respondents in the sample and using raking to account for a large number of demographic factors in the weighting procedure affected estimates in the BRFSS.[4] They found that these changes resulted in slightly higher estimates for some high risk health behaviors and certain health conditions (e.g. cigarette smoking and asthma). In contrast, changes to the estimates for obesity, stroke, and coronary heart disease were found to be minimal. Similar affects on survey estimates might be applicable to the LACHS.

Can the 2011 LACHS data be compared with the data from the previous LACHS surveys?

These methodology changes make it difficult to compare 2011 LACHS results to survey data from previous cycles. These changes should be thoughtfully considered when interpreting trend data using 2011 LACHS estimates, and when making comparisons to previous LACHS survey cycles. Additionally, the methodology changes should be clearly noted when presenting trend data.

For more detailed information about the methodology, please see the full report on our web site at:
http://www.publichealth.lacounty.gov/ha/hasurveyintro.htm or
http://www.publichealth.lacounty.gov/ha/docs/2011%20LACHS/LACHS%20Methodological%20Report_REV121029.pdf

3. *Battaglia MP, Frankel MR, Link MW. Improving standard poststratification techniques for random-digit–dialing telephone surveys. Survey Research Methods 2008;2:11–9.*
4. *Centers for Disease Control and Prevention. Methodologic Changes in the Behavioral Risk Factor Surveillance System in 2011 and Potential Effects on Prevalence Estimates. MMWR 2012;61:410-413. www.cdc.gov/mmwr/pdf/wk/mm6122.pdf.*