

EVALUATING THE CALIFORNIA HEALTH INTERVIEW SURVEY OF THE FUTURE: RESULTS FROM A METHODOLOGICAL EXPERIMENT TO TEST AN ADDRESS-BASED SAMPLING MAIL PUSH-TO-WEB DATA COLLECTION



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Executive Summary

The decline in response rates of random-digit-dialing (RDD) sampling and computer-assisted telephone interviewing (CATI) data collection and cultural shifts in telephone use has driven the UCLA Center for Health Policy Research to consider a methodological redesign of the California Health Interview Survey (CHIS) in order to implement more cost-effective methods that could supplement or replace RDD/CATI in future CHIS cycles.

A mode experiment conducted in the spring of 2018 in three California counties (Los Angeles, Santa Clara, and Tulare) explored a revised design for the CHIS which used an address-based sampling (ABS) frame with a mail push-to-web invitation with a CATI nonresponse follow-up. This report details the revised design and the results of the experiment in comparison to current production data in terms of response rates, cost, and impacts on key health indicators.

Key findings from the experiment include:

Response Rates

- Higher adult response rates across all three counties compared to 2017 CHIS production (14.0% overall vs. 7.4%, respectively)
- Comparable child response rates to 2017 CHIS production but sharp declines in teen response
- Non-ABS sample used to increase the proportion of Asian and Latino respondents was less effective than ABS sample (5.8% cooperation rate vs. 9.1%, respectively)
- 37% of CATI completes originated from inbound callers before CATI collection began in earnest

Within-Household Selection Experiment

- Next birthday and age order selection methods performed similarly in terms of response rates and overall accuracy of adult selection
- Including a confirmation question in the screener with the next birthday method significantly improved the accuracy of adult selection (10% inaccuracy rate vs. 29% without the confirmation)

Second Invitation Mail Experiment

• Certified mail more than doubled the completion rate for the second invitation compared to standard First-class mail (6.6% vs. 2.5%); Priority mail did not perform as well as Certified

Cost Analysis

- The revised design saw a 33% decrease in the cost per complete compared to production
- Even with the increased cost of Certified mail, the cost per complete was 40% lower than Firstclass mail for completes collected following the second invitation

Evaluation of Key Indicators

- Web/CATI obtain a different population compared to CATI alone: younger (and therefore healthier), better educated, fewer foreign born, and fewer non-English speakers
- CATI follow-up was key to adjusting our estimates by obtaining older, less healthy respondents

Overall, the proposed redesign provides encouraging results for adult and child data collection with a more cost-effective methodology. Further research is needed to improve in-language efforts to better represent Latinos and non-English speaking participants, and increase teen permission and cooperation.

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Background

The California Health Interview Survey (CHIS) is the nation's largest state health survey and a collaborative public health initiative of the UCLA Center for Health Policy Research, the California Department of Public Health, and the California Department of Health Care Services. The CHIS is conducted with support from major sponsors like Kaiser Permanente and other foundations, in addition to funding from the state of California. The purpose of the survey is to collect information about the health status and access to healthcare of the state's diverse population for use by public health researchers, planners, and state and local health care officials. The mission of CHIS is to provide local estimates to counties and county-groups and provide statewide estimates for the state's major racial/ethnic groups. Major content areas for the survey include health-related behaviors, health status and conditions, health insurance coverage, and access to health care services. To capture the rich diversity of the California populations, interviews are conducted in six languages: English, Spanish, Chinese (Mandarin and Cantonese dialects), Korean, Tagalog, and Vietnamese.

CHIS has employed random-digit-dialing (RDD) sampling and computer-assisted telephone interviewing (CATI) data collection methods since its inception, but industry declines in RDD/CATI response rates and cultural shifts in telephone usage motivate exploring alternative sampling and data collection methodologies (Pew Research Center, 2012; Dutwin & Lavrakas, 2016; AAPOR, 2017; de Leeuw, 2018). These include, but are not limited to: sample selection through address-based sampling (ABS); utilizing mail, internet, or mixed mode data collection; incorporating medical, insurance claims, and other administrative records sources with traditional survey data; and other creative combinations of modes and data sources.

Due to the shift from landline to cell-phone only households, the coverage of landline RDD has sharply declined (Blumberg & Luke, 2018). Switching to ABS has huge potential for improving response rates while lowering survey costs (AAPOR, 2016; de Leeuw, 2005; Dillman, Smyth, & Christian, 2014; Hoebel, von der Lippe, Lange, & Ziese, 2014) especially with the increased difficulty with contacting cell-phone only households (AAPOR, 2017). The United States Postal Service (USPS) Computerized Delivery Sequence (CDS) file arguably has the best frames of households in the United States as it is regularly updated and has very high coverage, with coverage as high as 100% in some areas (AAPOR, 2016).

Many researchers are conducting mixed-mode designs with the ABS frame in an effort to alleviate high nonresponse and rising costs of RDD (de Leeuw, 2005; Johnson & Williams, 2010; AAPOR, 2016; de Leeuw, 2018). Mixed mode designs can refer to different modes for data collection as well as recruitment and collection (AAPOR, 2016).

Recently, ABS web-push (also known as push-to-web) has emerged in an effort improve response rates via the Internet (Battaglia et al., 2016; Dillman, 2017). This mixed mode strategy uses a mail invitation to encourage households to participate in a web survey. Web collection is generally considered the least expensive mode of data collection significantly reducing the cost per complete. The American Community Survey adopted this strategy in 2013 and many countries – including Japan, Canada, and Australia – have used web-push methods for recent censuses (Battaglia et al., 2016; Dillman, 2017). This method is being tested for a variety of surveys as a potential replacement for RDD CATI and/or in-person interviews across the world.

Self-administered methods have not proven very successful for non-English collection and significantly underrepresent low English proficient respondents (McGovern, 2004; Brick et al., 2012; Caporaso et al., 2013; Newsome et al., 2017). While providing recruitment materials in Spanish can improve response rates and even push respondents to complete in a desired mode (Brick et al., 2012; Newsome et al., 2017), these steps may not be sufficient to correct for nonresponse bias. Interviewer methods are much more effective at recruiting respondents who are minimally English proficient and may still be the most efficient way to obtain non-English interviews.

The primary emphasis of exploring a redesign of the CHIS is to focus on implementing methods that provide a more cost-effective means for achieving the mission of the CHIS to supplement or replace RDD/CATI in future CHIS cycles.

In 2017, the UCLA Center for Health Policy Research received a combined grant from the Kaiser Permanente Northern California Community Benefits Program, the Kaiser Foundation Hospitals, Southern California Region, and the Kaiser Foundation Health Plan's national program offices. This grant included funding for a field experiment exploring a revised design for the CHIS that was less dependent on telephone data collection and would better position the CHIS to efficiently collect accurate data in the current household survey environment, as the CHIS prepared for the 2019-2020 data collection cycle.

This report details the methods of an ABS push-to-web with CATI follow-up experiment fielded in the spring of 2018. We discuss the results of the experiment in comparison to current production data collection in terms of response rates, costs, and impacts on historical trending of key estimates.

Methods

Overall design

For this pilot experiment, we proposed a multi-frame, mixed-mode survey design to test the feasibility of an address-based sampling (ABS) frame with a web survey component to potentially replace the existing random digit dialing (RDD) and computer-assisted telephone interview (CATI) design. The proposed field experiment primarily focused on an ABS frame of select California counties supplemented by a surname/language list frame associated with those same counties. The purpose of the surname/language list frame was to help guarantee the inclusion of racial and ethnic minorities as well as more efficiently target participants who are nonnative English speakers. We included a Korean/Vietnamese surname list (consistent with production CHIS) as well as a Spanish surname list sample.

In relation to the mixed-mode design, the initial data collection mode was web. Selected adults were invited to participate in the web survey via mail invitations. Due to schedule and budget constraints, for this first experiment exploring the feasibility of a web response option, the web survey was only offered in English. After three mailings, sample cases that could be matched to a phone number were contacted via CATI to complete a telephone interview. We anticipated that a large portion of the surname/language (S/L) list sample would lead to telephone interviews given language needs (e.g., nonnative English speakers preferring to conduct the interview in a language other than English) and that phone numbers will be available for all of these cases. A mail questionnaire was not considered for the experiment given the length and complex skip patterns of the CHIS survey.

Adult survey data collection plan (see Figure 1)

From the two sampling frames, all ABS cases and all S/L sample which could be matched to an address were mailed an initial invitation packet. This packet contained:

- (1) an invitation to participate in the survey along with a unique, secure login
- (2) a \$2 bill pre-incentive
- (3) a multilingual information sheet providing details in the remaining CHIS languages about how to call-in to complete the survey in a non-English language
- (4) instructions for who is to complete the survey

Random selection of one adult in the household is a difficult but important step in self-administered surveys (Olson and Smyth, 2017). In order to better understand the success and impact of different within household selection methods in a web survey, the instructions noted in item (4) served as an experimental condition for this field experiment. All sampled cases were randomly assigned to one of three experimental conditions detailed in the invitation letter:

- (1) Next-birthday method (current method)
- (2) Next-birthday method with a confirmation question¹ at beginning of web instrument
- (3) Age-order method²

Approximately one week after the original invitation was sent, a pressure sealed postcard containing the secure login information was sent as a reminder to complete the survey online. This made the reminder more actionable than a standard postcard reminder without the secure login information.

Approximately two weeks after the reminder postcard was mailed, a second invitation was mailed to the respondent encouraging them to complete the web survey. In order to measure the impact of various mail packaging on response rates and cost, we tested three types of mailings for the second invitation:

- (1) First-class letter (control)
- (2) Priority mail
- (3) Certified mail

The Priority envelope is a standard 9.5"x12.5" paperboard envelope. The Certified mail used the standard business envelope like the First-class mailings, but included the green Certified label over the top of the envelope. Examples of these envelopes, and all the accompanying mail materials, are included in Appendix A.

¹ The confirmation question design was adapted from Olson and Smyth (2017) which included a confirmation question on the front cover of a mail questionnaire. The authors found a confirmation improved the accuracy of the selection with a minor decline in response rates. This method was implemented in this experiment by using a confirmation question in the screener portion of the survey before the informed consent screen asking if the respondent was the randomly selected respondent (i.e., "Are you the adult 18 or older in your household who will have the next birthday?").

² The age-order method was adapted from a Statistics Canada study by Bosa, Gagnon, and Caron (2017, May). This method uses six different within-household invitations based on the number of household members: oldest, second oldest, third oldest, youngest, second youngest, and third youngest. The authors found this method improved the accuracy of selection within a small increase in response rates. This experiment modeled the language of the selection directly from that study.

At the end of the initial four-week period for web response, the remaining nonresponding cases assigned to web were telephone matched. Successfully matched cases were then transitioned to CATI interviewing receiving up to six call attempts to attempt a complete interview. For those nonresponding cases that could not be matched to a telephone number, no further contact attempts were made. For details of the final timeline of mailings, see Figure 2.

Teen survey data collection plan (see Figure 3)

During the adult web survey following the completion of the household roster, adults with eligible teens were prompted to provide permission for CHIS to interview their teen. The consent language was similar to the consent procedure currently implemented by CHIS over the phone. Following an affirmative permission, respondents were asked to provide the teen's phone number and asked if CHIS had permission to text and/or call their teen. The adult was then prompted to provide an email address for which to contact their teen. In the event the parent did not provide the teen's phone number, a follow-up question requested that an alternate phone number (e.g., home or landline number) be provided so we could have the opportunity to call the teen. The data collection procedures were influenced by which contact information the parent provided. The three procedures are detailed below:

- (1) If the parent provided permission to text the teen at the given number, the teen received a text inviting them to participate in the survey with the necessary login information. Three days after, the teen received a text reminder to login along with an email (if provided) with the login information. One week following the text (and email) reminder, a letter addressed to the teen was mailed to the original address inviting them to complete the survey online. Finally one week after the mail reminder was delivered, if permission to call a teen was provided, we attempted to call the teen.
- (2) If the parent provided only an email address, the teen received an email inviting them to participate in the survey along with the necessary login information. Three days after the initial invitation, a second reminder email was sent. One week following the email reminder, a letter addressed to the teen was mailed to the original address inviting them to complete the survey online. Again, one week after the mail reminder was received, if permission to call a teen was provided, we attempted to call the teen.
- (3) If the parent refused to provide a phone number or email address, the teen was mailed a letter addressed to the teen asking them to respond online. A reminder letter was sent one week later repeating the login information and instructions. One week after the mail reminder was delivered, if permission to call a teen was provided, we attempted to call the teen.

If the parent completed the interview by phone and had a sampled teen, CATI interviewers attempted to obtain a response from the sampled teen following the standard CATI protocols employed by CHIS. No attempt to invite the teen to complete the web survey was attempted for these cases. This choice is based on a desire to preserve the CATI protocols currently in place and not disrupt the broader data collection via CATI.

Selection of counties

The experiment was conducted in a set of three purposively selected California counties: Los Angeles, Santa Clara, and Tulare. This selection is based on a variety of factors including:

(1) CHIS response rates (specifically 2015-2016)

- (2) 2013-2015 ACS internet response rates
- (3) Internet usage rates (based on CHIS 2015-2016 data)
- (4) County size and urbanicity
- (5) Geographic distribution
- (6) Latino and Asian population

All of the California counties were narrowed to a select number of cases representing the extremes of the first three factors described above. With these extreme cases selected, we determined the final counties based on obtaining a reasonable mix of the final three factors.

The target number of completes by county was 200 (600 total) to be obtained over a 10 week data collection period during the Spring/Summer of 2018 (see Figure 2).

Results

Response Rates

The CHIS redesign experiment sampled 9,000 addresses total with variable county-level sample sizes designed to obtain a minimum of 200 completed interviews in each county. This design resulted in 3,166 sample addresses from Los Angeles, 2,807 from Santa Clara, and 3,027 from Tulare (see Table 1). Among the three counties, we achieved 792 completes – a completion rate of 8.8% – with 667 completed via web and 125 completed via CATI. The total weighted response rate was 14.0%. The individual county-level response rates for Los Angeles, Santa Clara, and Tulare are 13.8%, 15.8%, and 13.0%, respectively. These rates are all greater than the CHIS 2017 combined response rate of 6.7%. Santa Clara saw the largest increase in response nearly tripling its CATI response rate. Los Angeles also saw a large increase, more than doubling their response rate compared to the 2017 CATI combined rate.

During the experiment, there were 136 eligible children total, with 35 from Los Angeles, 47 from Santa Clara, and 54 from Tulare (see Table 2). This resulted in a rate of 17.2% eligible child per adult complete, very similar to production CHIS. Of the 136 eligible children, only 79 child surveys were completed all via the web resulting in a completion rate of 58.1% overall. The total weighted response rate for child interviews was 64.9%. By county, the weighted response rate was 65.5% in Los Angeles, 63.5% in Santa Clara, and 62.3% in Tulare. The combined child response rate for the CHIS 2017 cycle was 63.7%, which is very close to the overall experiment response rate. Tulare County saw the largest increase from CATI to the revised design from 51.6% to 63.2%.

Among the three counties, 125 teens were eligible to participate in the survey. The permission rate was 30.4% (38 teen permission) compared to 26.3% from CHIS 2017 (see Table 3a). Of the 38 teens we received permission to survey, only 12 resulted in a completed interview (10 via web) averaging a 31.6% completion rate (see Table 3b). This resulted in a weighted response rate of 14.0% across the experiment as compared to the 23.4% response rate from CHIS 2017 production.

The non-ABS sample yielded a much lower cooperation rate (5.8%) compared to ABS (9.1%). The Korean/Vietnamese surname/ethnic list frame brought in 11 completes while the Spanish surname list frame brought in 41 completes. However, each list frame brought in slightly different groups of people. Among the Korean/Vietnamese sub-sample, approximately 60% completed the survey via web with a majority of them identifying as foreign-born (~70%), Asian (~90%), age 40 years or above (~80%), and have had some college education or more (~60%). Additionally, only about 20% of the sample spoke

English only or spoke English very well. For the Spanish surname sub-sample, 80% completed the survey online with similar distributions by age and education as the Korean/Vietnamese sample. However, only 60% identified as Hispanic, about 85% spoke English only or very well, and 20% of the sample is foreign born. This suggests strong differences in the types of individual as the two frames with the Korean/Vietnamese frame obtaining far more immigrants with low English proficiency than the Spanish frame, which consisted of more English proficient, US-born Latinos.

Nearly 16% of the completed interviews were obtained via CATI. Surprisingly, 37% of CATI completes were from inbound calls primarily occurring prior to the beginning of CATI data collection. Unfortunately, only 11 non-English interviews were completed (three in Spanish, eight in Asian languages). These interviews comprised 8.8% of CATI completes (2.4% Spanish, 6.4% Asian), but only 1.4% of total completes (0.4% Spanish, 1.0% Asian), which is a large drop from CATI production.

Within-household selection experiment

The total sample (n = 9,000) was equally divided into three within-household selection methods: (1) next birthday, (2) next birthday with confirmation, and (3) age order. Each of the methods obtained a similar number of final completes (about 260 each) for an average completion rate of 8.7% (see Table 4). The next birthday with confirmation method yielded the highest weighted response rate at 15.0%. The next birthday method (without confirmation) obtained the second highest weighted response rate (13.9%) even though it had the smallest completion rate.

In order to assess the accuracy of each of the within-household selection methods, we used information from the adult household roster collected in Section G of the survey. However, this method is not without error as we did not force respondents to answer questions about all of their household members, resulting in about 13% missing data, on average, across the three methods. The age order method resulted in the lowest refusal rate (9.6%), followed by the next birthday method (12.2%) and the next birthday with confirmation (15.9%). A second problem that affected our assessment were cases where the accuracy could not be fully determined. In an attempt to avoid asking for full birthdates, we opted to only ask for month and year of birth for each household member. This resulted in 16.4% of the next birthday methods (combined) being non-classified since two household members could have the same birth month, or a household member could have the same birth month as the interview month. Only 1.8% for age order method could not be classified due to two household members having the same birth month and year.

When comparing within-household selection accuracy by number of adults in the household (excluding households that could not be classified), we found that the percentage of inaccurate cases and number of adults are positively correlated (see Table 5). The next birthday with confirmation method performed the best with only 10% households classified as inaccurate across all household sizes with maximum of 29% for households of four or more adults. The next birthday method did better than expectation with 29% inaccurate cases overall. The age order method performed similarly with an average inaccuracy rate of 30% across all household sizes.

The best performer of the three selection methods was definitely the next birthday with confirmation. However, given a very small number of revisits to the survey instrument, it is unclear why the confirmation question in the screener did so well at obtaining the correct household member.

Second invitation mail experiment

Following the reminder postcard, the remaining sample with mailable addresses who had not yet responded (n = 8,548) was randomly assigned to one of three mail types for the second invitation: (1) standard (First-class) (n = 2,850), (2) Priority (n = 2,849), and (3) Certified (n = 2,849). As of the May 15, 2018 mailing of the second invitation, there were 397 completes via web and phone (see Table 6). When comparing invitation mail type, First-class brought in 72 completes, Priority brought in 137, and Certified brought in 188. The completion rate among standard, Priority, and Certified mailing types are 2.5%, 4.8%, and 6.6%, respectively. Similarly, the weighted response rate among the three methods are 9.0%, 10.1%, and 14.4%, respectively.

During the experiment, it came to our attention that local postal workers of the United States Postal Service (USPS) did not necessarily enforce the stated USPS policy that requires a household to sign for a Certified letter. Seeded CHIS staff members in the study only had to sign for one of eight mailings received. When this policy was followed, a notification was left in the household's mailbox and the letter was taken to the local post office to await pickup. This resulted in over a quarter of the Certified mail pieces being returned to CHIS as unclaimed (n = 625), refused (n = 67), or classified as undeliverable-as-addressed (n = 77). In total nearly a full third of the Certified mail pieces were returned to CHIS as opposed to only 1.3% of Priority mailings.

Cost analysis

When comparing data collection costs for the experiment to the production cost of the three counties, Los Angeles, Santa Clara, and Tulare, we found that we spent \$215.60 per complete on the experiment compared to \$323.55 per complete for production – a 33% decrease in cost per complete. The largest drop was in telephone labor, which fell almost 90% from production. This is a meaningful and sizable difference given CATI labor accounts for nearly 75% of our production cost per complete. This tremendous gain is offset by the dramatic increase in postage and printing costs for the experiment, which nearly triples from production. However, postage and printing costs are less than 40% of the experiment cost per complete.

Given the large cost differences between the three mail methods chosen for the second invitation, it is important to evaluate the impact of cost given the number of returns. The cost per complete before the third mailing treatment was \$169.07. After incorporating the third mailing treatment, the cost per complete for standard, Priority, and Certified mailing was \$314.42, \$331.53, and \$189.83, respectively. The total cost of the Priority third mailing treatment was 105% of the total standard cost per complete with the doubled completion rate offset by the tremendous increase in postage (e.g., \$1.40 versus \$6.40 per letter). On the other hand, the total cost of the Certified third mailing treatment was 60% of the total standard cost per complete with a tripled completion rate offset by a moderate increase in postage (e.g., \$1.40 versus \$3.92).

Evaluation of key indicators

In order to evaluate the differences in key estimates between the experimental design and production, we conducted two analyses to measure the difference between (1) the experimental respondents and control production data, and (2) the web respondents and the CATI respondents within the experiment. A total of 26 measures were examined across multiple interest areas including socio-demographic (e.g., age, gender, marital status, poverty status), ethnicity and language (e.g., country of birth, English proficiency, citizenship status), health outcomes (diabetes, hypertension, psychological distress), health

behaviors (smoking status, e-cigarette usage), and health care access (insurance status, delays in care). Due to multiple comparisons, we recommend evaluating the significance of differences at α = 0.0001. All comparisons were conducted on the weighted estimates. Thus variables used in weighting (e.g., gender, age, race) are less likely to appear significant in these comparisons.

The first analysis compared the experimental estimates with control data from the concurrent 2018 CHIS production data by county. Los Angeles (n = 1,014) and Santa Clara (n = 276) control data were drawn from Q2 of 2018 CHIS production while Tulare (n = 180) comparison data was drawn from Q1 and Q2 of production due to Tulare's small sample size per year. The experiment samples from Los Angeles, Santa Clara, and Tulare were 251, 290, and 251, respectively (see Table 1).

Across the three counties, we consistently saw higher rates of high school graduates in the experiment (p < 0.05 generally; p < 0.0001 for Tulare County) as well as those who are English proficient (p < 0.05 generally, p < 0.0001 for Los Angeles County). Santa Clara and Tulare both saw fewer <200% FPL (Tulare: p < 0.05; Santa Clara: p < 0.0001) while Los Angeles and Tulare both saw fewer born in Mexico and Central America (p < 0.01). Focusing on health, Los Angeles and Santa Clara both saw higher ratings of self-rated health (excellent, very good, good) compared to the production data (Los Angeles: p < 0.0001; Santa Clara: p < 0.05). Of note individually, Tulare saw fewer non-citizens (p < 0.0001), more with recent serious psychological distress (p < 0.01), and more with e-cigarette use (p < 0.01) while Santa Clara has more who were insured (p < 0.01). A couple other individual indicators were also found to be significant at an alpha of 0.05. For full details, see Tables 7, 8, and 9 for Los Angeles, Santa Clara, and Tulare respectively. Estimate comparisons are also displayed in Figures 7, 8, and 9.

The second analysis compared the key indicators of web respondents to CATI respondents within the experimental data alone. The sample sizes for this test can be found in Table 1.

One trend seen across all three counties was the increase in aged 65+ respondents from the CATI mode, especially for those aged 80+ (p < 0.01). Hypertension was consistently higher for CATI respondents in all three counties (p < 0.05 generally; p < 0.0001 in Los Angeles) as were current smokers for Santa Clara and Tulare (p < 0.05). Individually, Los Angeles County saw higher rates of diabetes among CATI respondents (p < 0.0001) and higher rates of recent psychological distress among web respondents (p < 0.0001). In Santa Clara, CATI brought in more singles without children (p < 0.01) and more with some college or trade school education (p < 0.01). In Tulare, CATI brought in fewer with <200% FPL (p < 0.01) and more with a usual source of care (p < 0.05) while the Web saw more with suicidal thoughts (p < 0.01), delayed prescriptions (p < 0.01), and asthma (p < 0.05). For full details, see Tables 7, 8, and 9 as well as Figures 10, 11, and 12.

Discussion and Conclusions

Overall we consider the results of this experiment very encouraging. The ABS push-to-web with CATI follow-up design resulted in higher response rates across the three counties compared to production CHIS and resulted in significantly lower costs per complete. While the web sample encouraged more response from younger and healthier respondents, we found that the inclusion of the CATI follow-up balanced the web sample by increasing response for older, less healthy adults. The inclusion of a confirmation question in the web screener greatly improved our ability to survey the selected adult in the household. A Certified reminder invitation was very effective at achieving a better cost per complete following the initial invitation and reminder.

Our results are not without red flags for future implementation in CHIS 2019-2020. Based on these results, we believe further experimental testing is needed in a number of areas. The experiment revealed that using web and CATI seemed to obtain a slightly different population than CATI alone. As anticipated based on previous literature and research, our final sample had less foreign born, less non-English speaker, more highly educated, and more affluent respondents. Given the low rates of Latinos and non-English speaking respondents, there is a need to improve in-language efforts. This might include including a Spanish web instrument and providing targeted Spanish materials. Our efforts to recruit teens also proved ineffective and suggest the need for further research about the permission process from parents and what would motivate teens to participate at a higher rate when the parental encouragement is not present like in CATI.

Ideally this methodology – adapted to address some of the shortcomings of this experiment – would benefit from a full statewide test to verify that our approach works across all strata. While the Child survey performed comparably to CATI, future work should consider how response rates to the Child survey could be improved.

The CHIS Redesign Working Group

The CHIS Redesign Working Group brought together several external survey methodology and subject matter experts to help evaluate where the CHIS could improve and innovate. The working group evaluated various frame and mode options to supplement or replace the existing data collection methodology. They were instrumental in helping to review and refine the field experiment plan and materials discussed here. The members of the CHIS Redesign Working Group include:

- David Dutwin, PhD Executive Vice President and Chief Methodologist at SSRS; President (2018-19) of the American Association for Public Opinion Research (AAPOR)
- Jason Fields, PhD Survey Director of the National Survey of Children's Health (NSCH) at the United States Census Bureau
- Timothy P. Johnson, PhD Professor of Public Administration and Director of the University of Illinois at Chicago (UIC) Survey Research Laboratory; President (2017-18) of the American Association for Public Opinion Research (AAPOR)
- Kristen Olson, PhD Associate Professor in the Department of Sociology at the University of Nebraska – Lincoln
- Nathaniel Schenker, PhD Retired Deputy Director of the National Center for Health Statistics (NCHS); President (2014) of the American Statistical Association (ASA)
- Linette Scott, MD, MPH Chief Medical Information Officer for the California Department of Health Care Services (DHCS)
- David Takeuchi, PhD Professor and Associate Dean for Research in the School of Social Work at Boston College
- Andrew Zukerberg Chief of the Cross-Sectional Surveys Branch at the National Center for Education Statistics (NCES)

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Figures

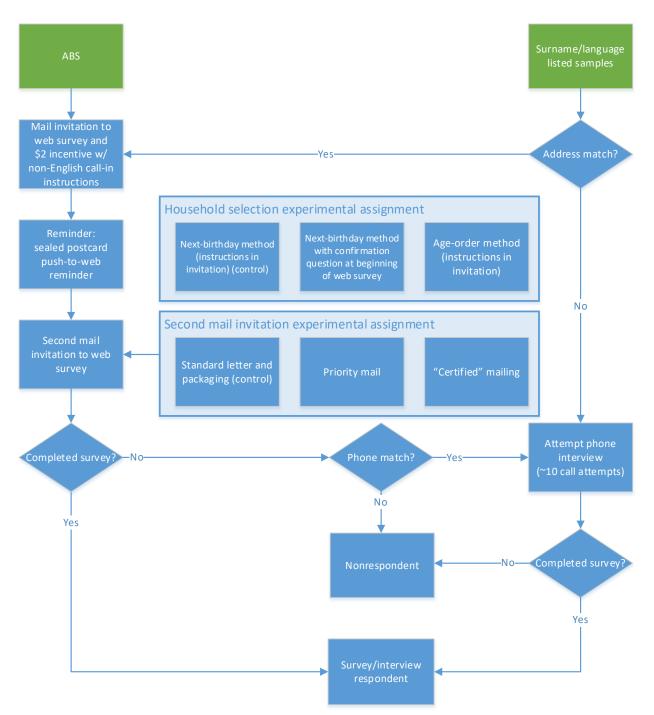


Figure 1. Proposed adult survey flow

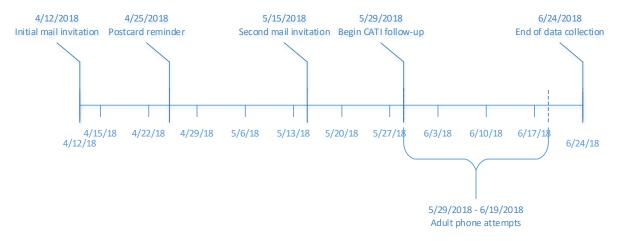


Figure 2. Final timeline for adult survey

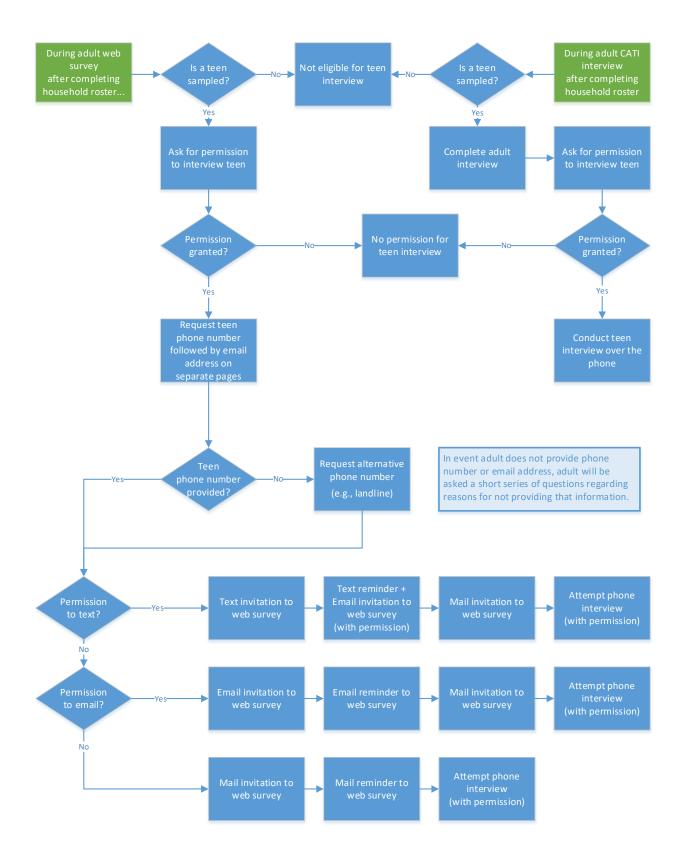


Figure 3. Proposed teen survey flow

Daily Web Completes

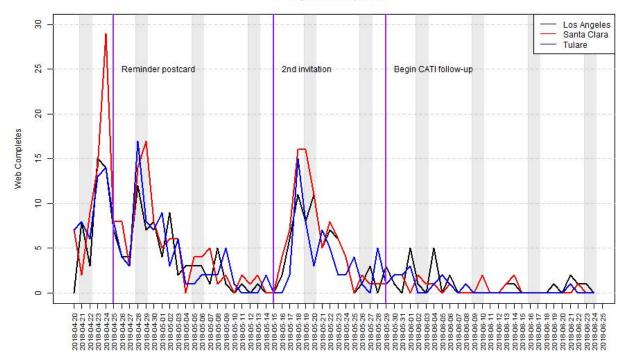
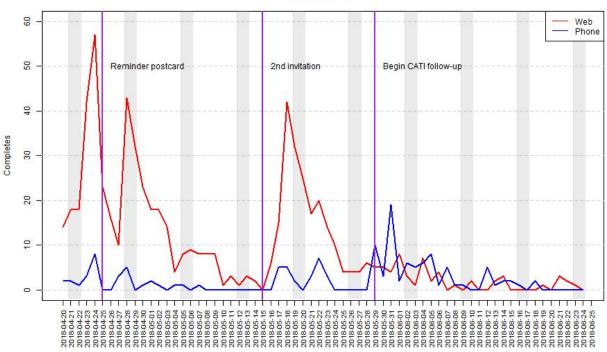


Figure 4. Daily web completes by county



Daily Completes

Figure 5. Daily total completes by mode

Cumulative Completes (All)

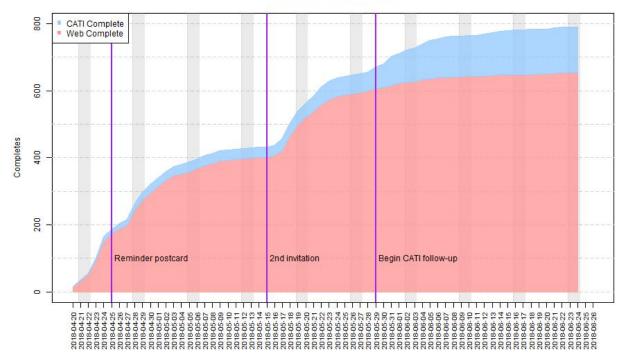
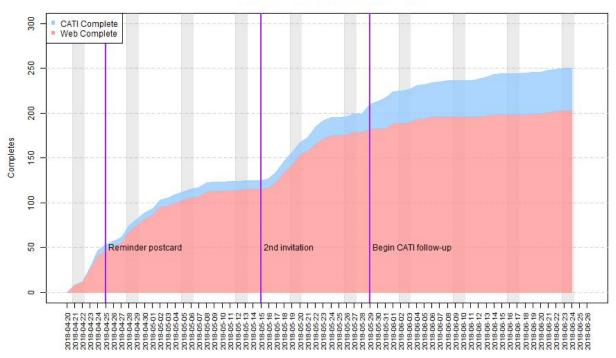


Figure 6a. Cumulative total completes across counties by mode



Cumulative Completes (Los Angeles)

Figure 6b. Cumulative completes by mode in Los Angeles County

Cumulative Completes (Santa Clara)

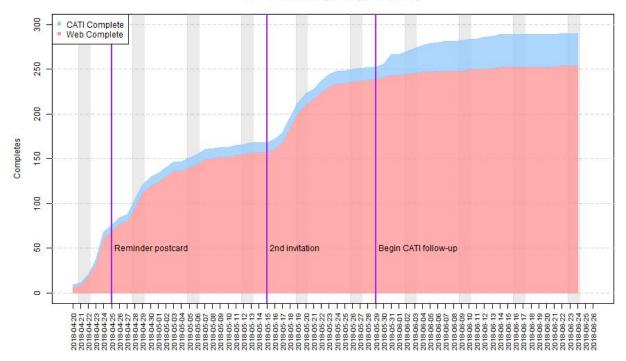
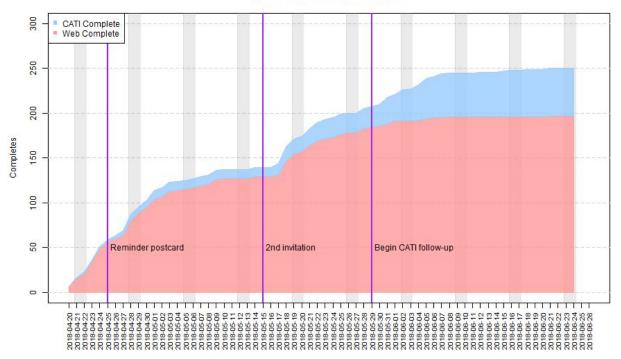


Figure 6c. Cumulative completes by mode in Santa Clara County



Cumulative Completes (Tulare)

Figure 6d. Cumulative completes by mode in Tulare County

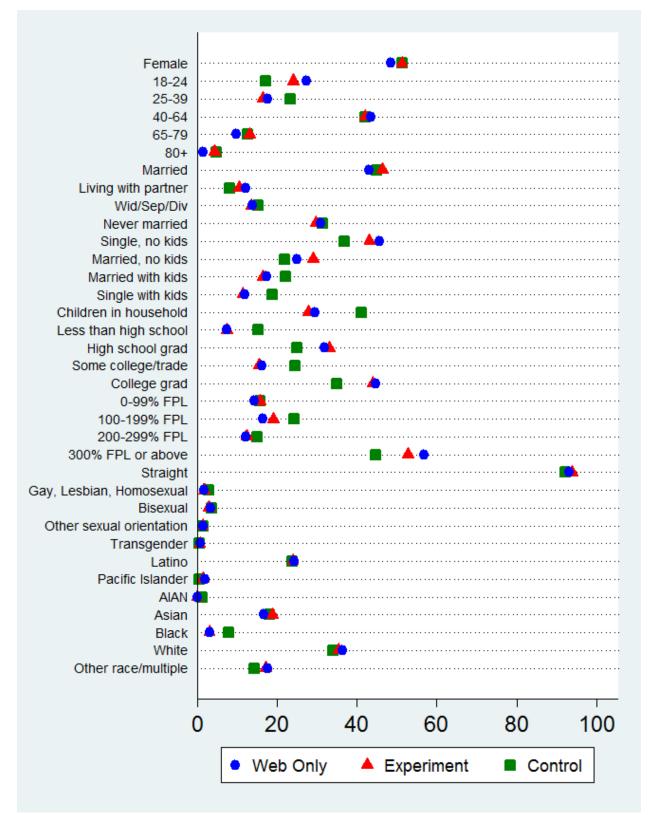


Figure 7a. Key indicator comparison for Los Angeles County

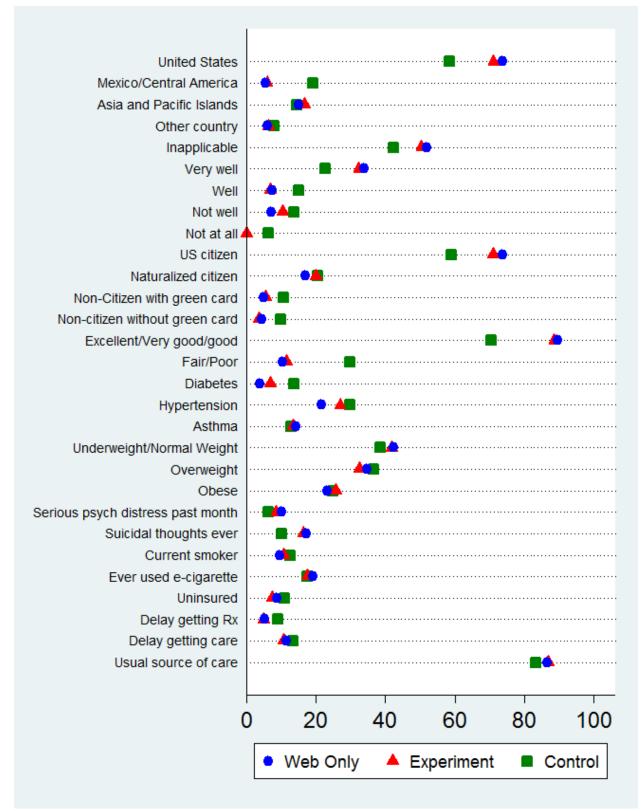


Figure 7b. Key indicator comparison for Los Angeles County (continued)

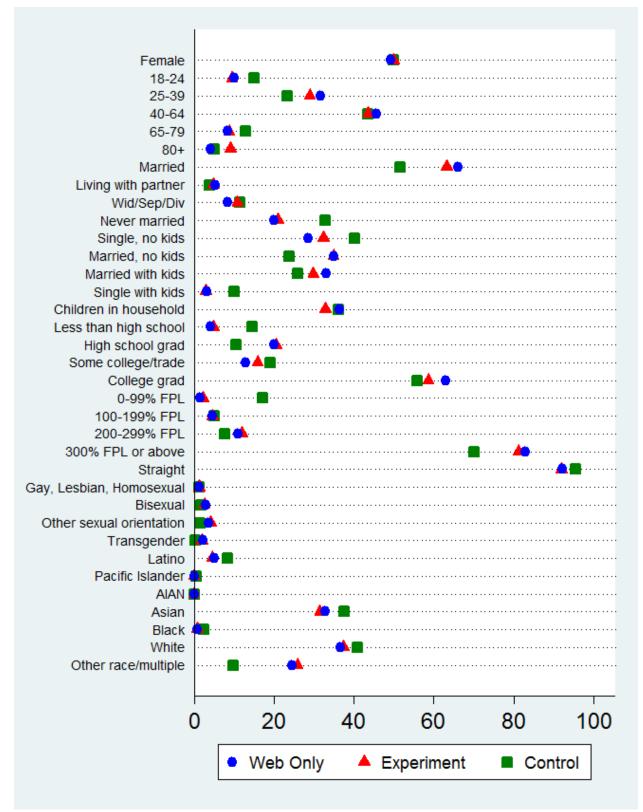


Figure 8a. Key indicator comparison for Santa Clara County

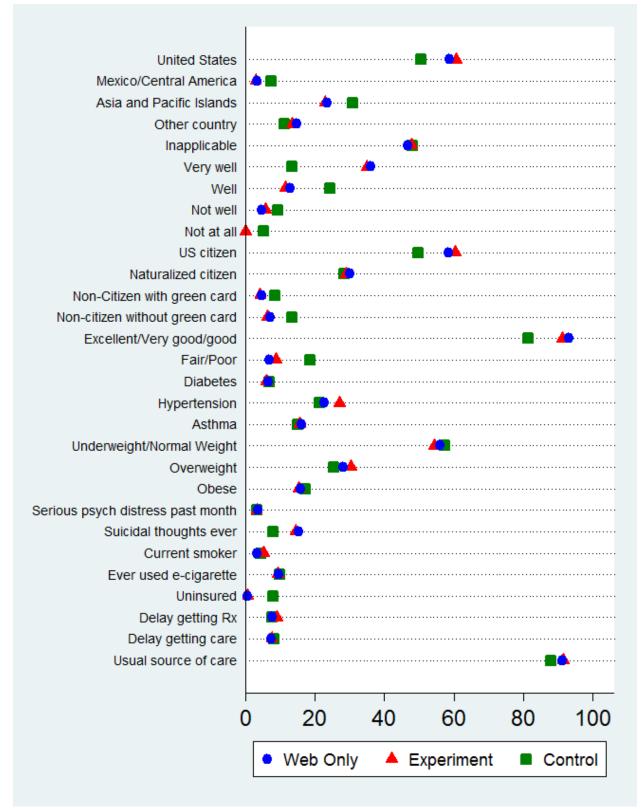


Figure 8b. Key indicator comparison for Santa Clara County (continued)

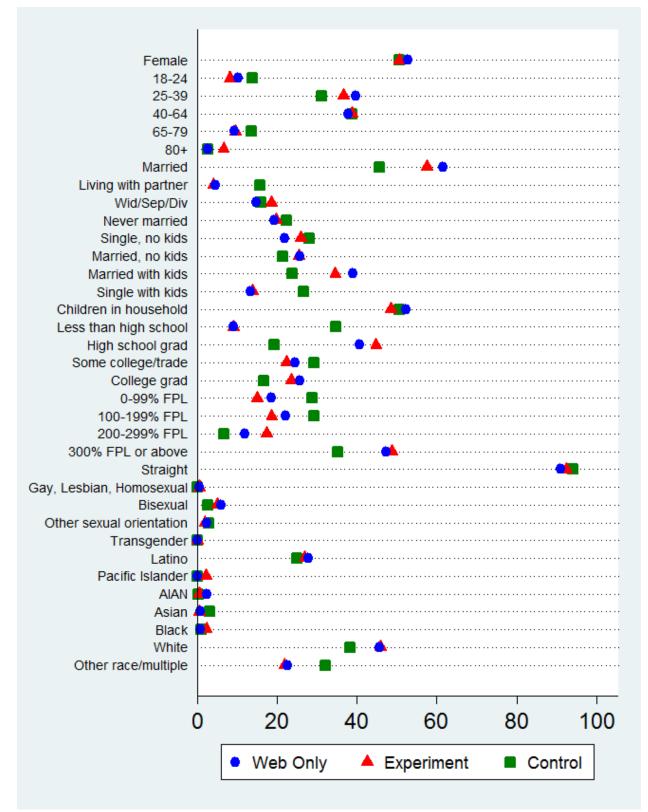


Figure 9a. Key indicator comparison for Tulare County

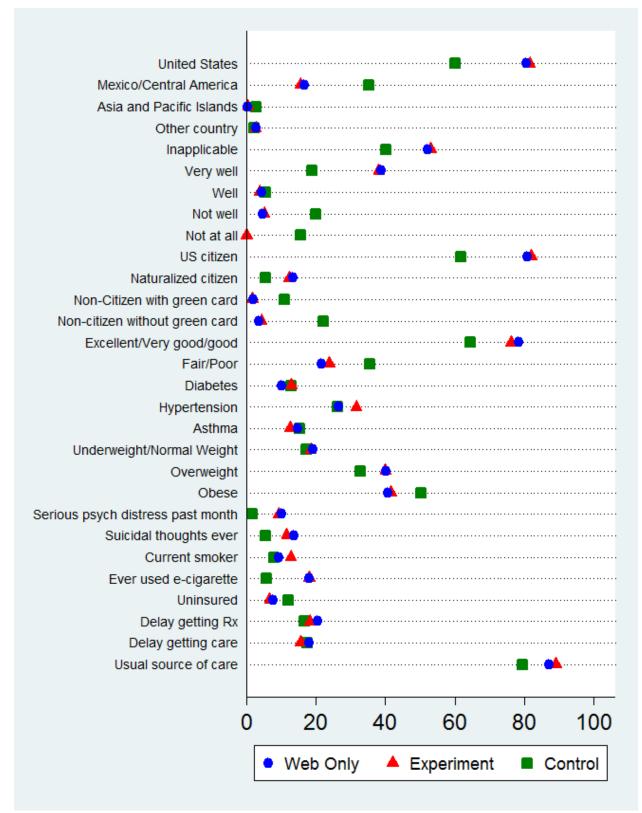


Figure 9b. Key indicator comparison for Tulare County (continued)

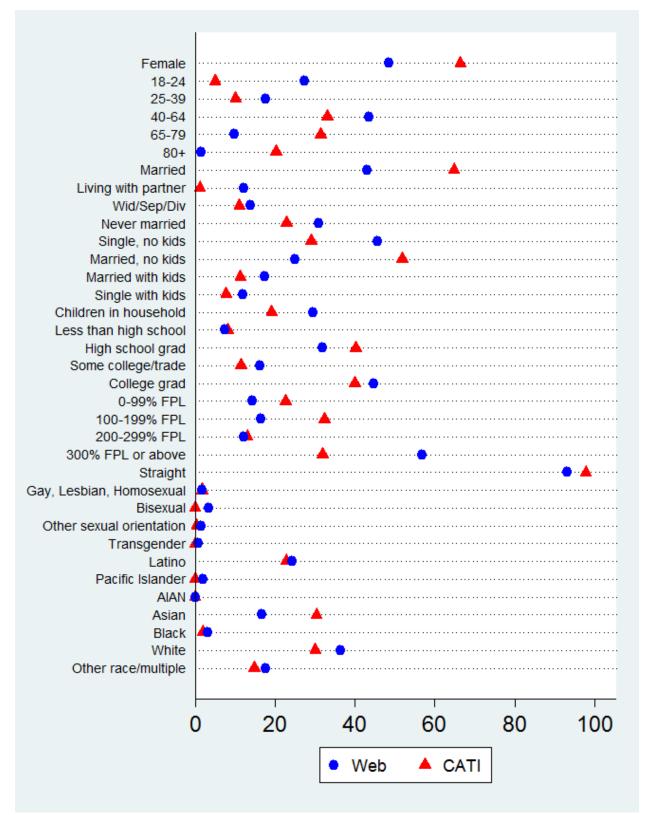


Figure 10a. Key indicator comparison by mode for experimental cases in Los Angeles County

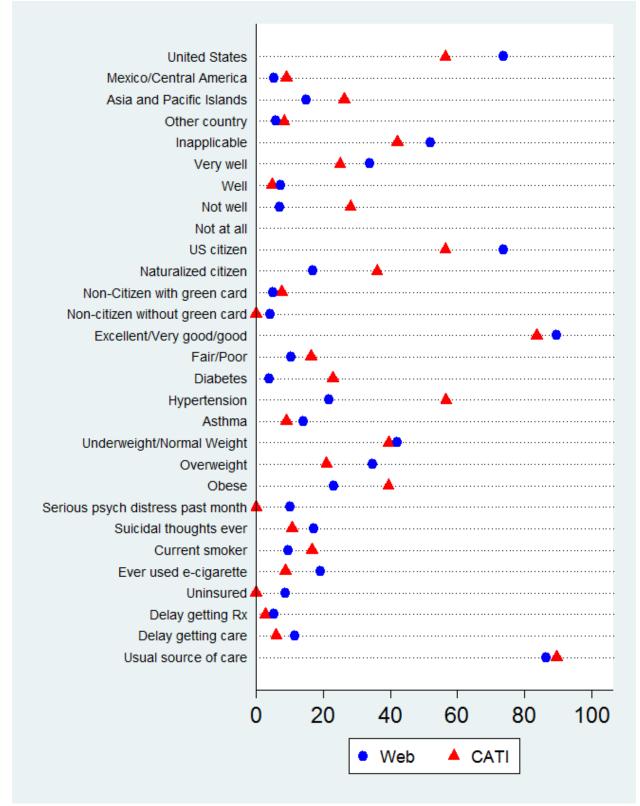


Figure 10b. Key indicator comparison by mode for experimental cases in Los Angeles County (continued)

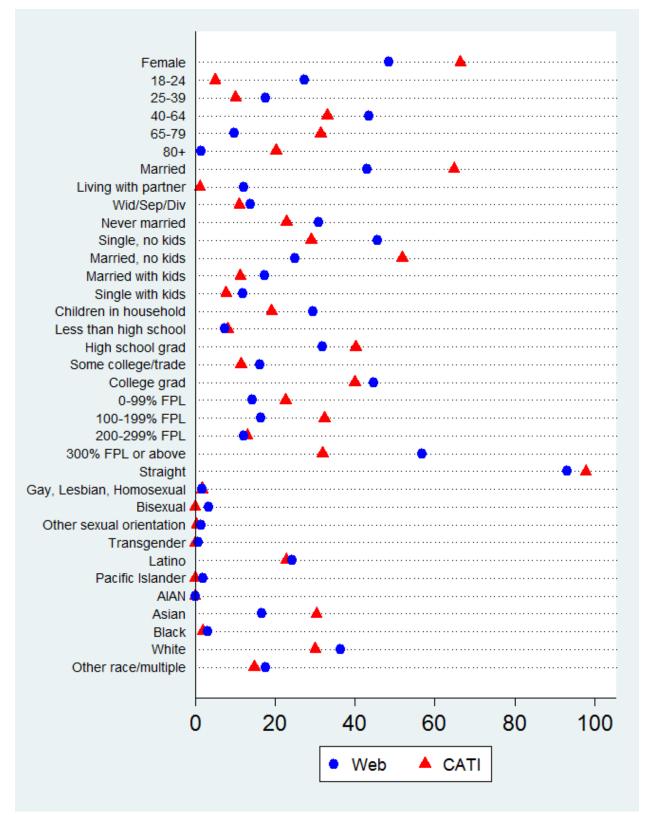


Figure 11a. Key indicator comparison by mode for experimental cases in Santa Clara County

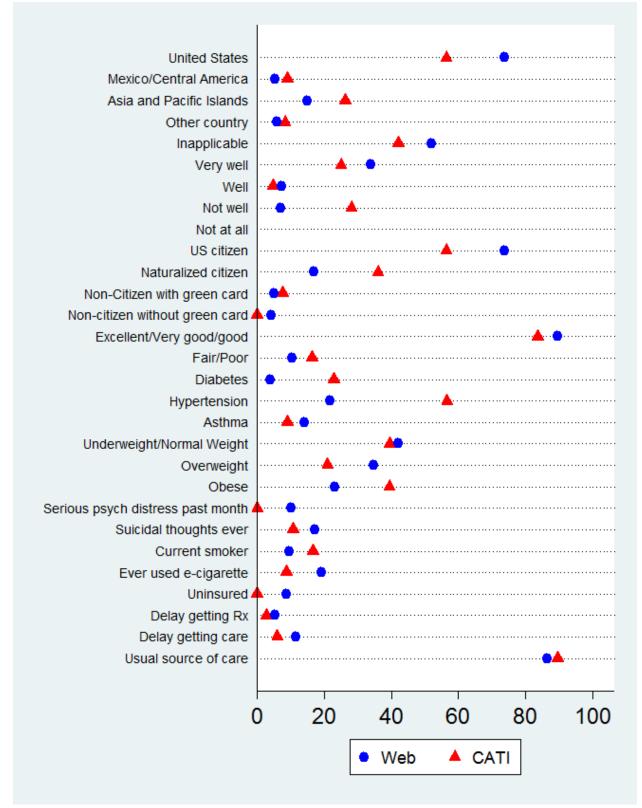


Figure 11b. Key indicator comparison by mode for experimental cases in Santa Clara County (continued)

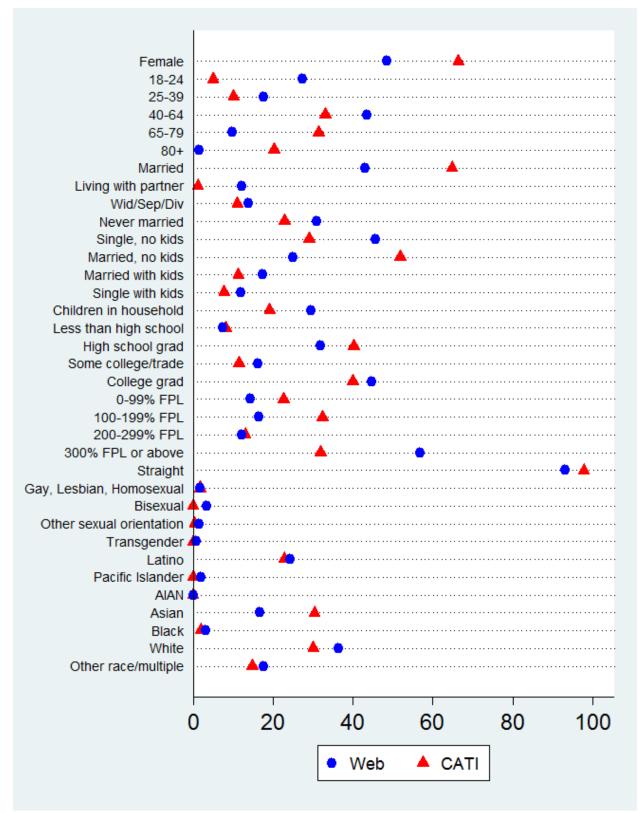


Figure 12a. Key indicator comparison by mode for experimental cases in Tulare County

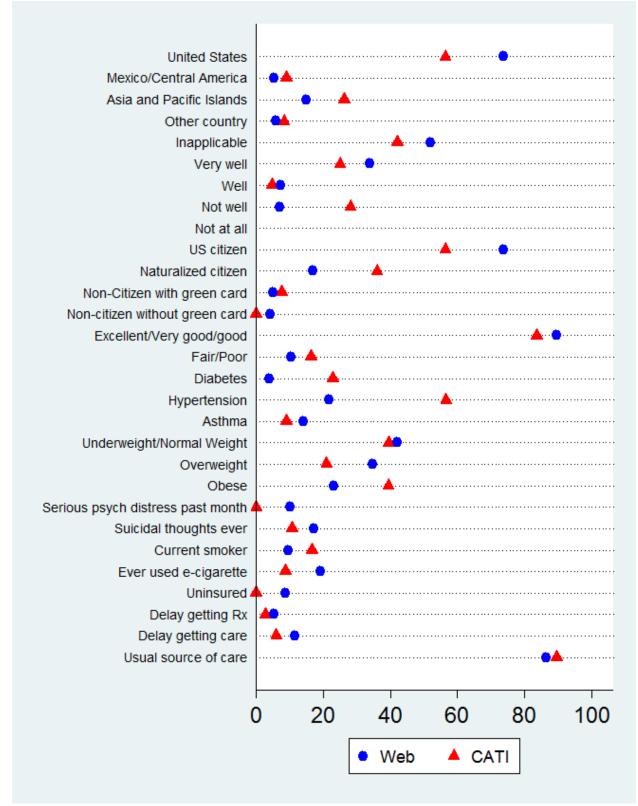


Figure 12b. Key indicator comparison by mode for experimental cases in Tulare County (continued)

Tables

| County | Total sample | Web | Phone | Web + Phone | Complete /Total | Unweighted RR ¹ | Weighted RR ¹ | CHIS 2017 LL RR ² | CHIS 2017 Cell RR ² | CHIS 2017 Combined RR ² |
|--------------------|-----------------|-----|-------|----------------|--------------------|-------------------------------|-----------------------------|---------------------------------|-----------------------------------|---------------------------------------|
| Los Angeles | 3,166 | 208 | 43 | 251 | 7.9% | 13.3% | 13.8% | 6.5% | 5.7% | 5.6% |
| Santa Clara | 2,807 | 258 | 32 | 290 | 10.3% | 15.2% | 15.8% | 5.4% | 6.0% | 5.5% |
| Tulare | 3,027 | 201 | 50 | 251 | 8.3% | 12.6% | 13.0% | 12.1% | 9.3% | 9.2% |
| Total ³ | 9,000 | 667 | 125 | 792 | 8.8% | 13.7% | 14.0% | 8.1% | 6.6% | 6.7% |

Table 1. Adult response rates by county

Note. ¹ Unconditional (or overall) response rates. ² CHIS 2017 unconditional RRs are weighted. ³ Total response rates for CHIS 2017 are for the entire production sample whereas they are the combination of the three relevant counties for the experiment.

Table 2. Child response rates by county

| County | Eligible Child | Child Web | Child Phone | Child Web + Phone | Complete /Total | Unweighted RR ¹ | Weighted RR ¹ | CHIS 2017 LL RR ² | CHIS 2017 Cell RR ² | CHIS 2017 Combined RR ² |
|---------------------------|-------------------|--------------|----------------|----------------------|--------------------|-------------------------------|-----------------------------|---------------------------------|-----------------------------------|---------------------------------------|
| Los Angeles | 35 | 19 | 0 | 19 | 54.2% | 63.3% | 65.5% | 58.7% | 64.5% | 62.5% |
| Santa Clara | 47 | 28 | 0 | 28 | 59.6% | 63.6% | 63.3% | 76.0% | 56.9% | 60.9% |
| Tulare | 54 | 32 | 0 | 32 | 59.3% | 62.7% | 63.2% | 66.7% | 48.1% | 51.6% |
| Total ³ | 136 | 79 | 0 | 79 | 58.1% | 63.2% | 64.9% | 63.3% | 63.9% | 63.7% |

Note. ¹ Conditional response rates. ² CHIS 2017 conditional RRs are weighted. ³ Total response rates for CHIS 2017 are for the entire production sample whereas they are the combination of the three relevant counties for the experiment.

Table 3a. Teen permission rates by county

| County | Eligible Teen | Teen Permission | Permission Rate | CHIS 15-16 Permission Rate ^{1,2} | CHIS 2017 Permission Rate ¹ | |
|--------------------|------------------|--------------------|--------------------|--|---|--|
| Los Angeles | 34 | 12 | 35.3% | - | - | |
| Santa Clara | 42 | 14 | 33.3% | - | - | |
| Tulare | 49 | 12 | 24.5% | - | - | |
| Total ³ | 125 | 38 | 30.4% | 49.6% | 26.3% | |

Note. ¹ CHIS 2015-2016 and CHIS 2017 permission rates are unweighted and are not available at the county level. ² The permission rate reported here is adjusted from the reported value in the 2015-2016 methodology report to more accurately reflect the historic definition of an eligible teen (Wells, 2018). ³ Total response rates for CHIS 2017 are for the entire production sample whereas they are the combination of the three relevant counties for the experiment.

Table 3b. Teen response rates by county

| County | Teen Permission | Teen Web | Teen Phone | Teen Web + Phone | Completes/ Permission | Unweighted RR ¹ | Weighted RR ¹ | CHIS 2017 LL RR ² | CHIS 2017 Cell RR ² | CHIS 2017 Combined RR ² |
|--------------------|--------------------|-------------|---------------|---------------------|--------------------------|-------------------------------|-----------------------------|---------------------------------|-----------------------------------|---------------------------------------|
| Los Angeles | 12 | 4 | 1 | 5 | 41.7% | 14.7% | 15.6% | 27.0% | 22.2% | 24.3% |
| Santa Clara | 14 | 5 | 0 | 5 | 35.7% | 11.9% | 10.6% | 35.0% | 16.4% | 25.3% |
| Tulare | 12 | 2 | 0 | 2 | 16.7% | 4.1% | 3.7% | 51.3% | 12.0% | 28.6% |
| Total ³ | 38 | 11 | 1 | 12 | 31.6% | 9.6% | 14.0% | 26.6% | 20.3% | 23.4% |

Note. ¹ Conditional response rates that do not exclude cases where parent did not provide permission. ² CHIS 2017 conditional RRs are weighted. ³ Total response rates for CHIS 2017 are for the entire production sample whereas they are the combination of the three relevant counties for the experiment.

Table 4. Within-household selection response rates

| Household selection method | Total sample | Web | Phone | Web + Phone | Complete/ Total | Unweighted RR ¹ | Weighted RR ¹ |
|-------------------------------|-----------------|-----|-------|----------------|--------------------|-------------------------------|-----------------------------|
| Next birthday | 3,000 | 200 | 52 | 252 | 8.4% | 13.2% | 13.9% |
| Next birthday w/ confirmation | 3,000 | 227 | 41 | 268 | 8.9% | 14.5% | 15.0% |
| Age order | 3,000 | 221 | 47 | 268 | 8.9% | 13.8% | 13.6% |

Note.¹ Unconditional (or overall) response rates.

Table 5. Within-household selection accuracy

| Nex | t-birthday met | :hod | Next-birthday method w/ confirmation | | | Age-order method | | |
|-------------|---------------------|---------------------|--------------------------------------|---------------------|---------------------|------------------|---------------------|---------------------|
| # of adults | Completed roster | Inaccurate cases | # of adults | Completed roster | Inaccurate cases | # of adults | Completed roster | Inaccurate cases |
| 1 | 58 | 0% | 1 | 55 | 0% | 1 | 48 | 0% |
| 2 | 63 | 40% | 2 | 81 | 12% | 2 | 112 | 31% |
| 3 | 14 | 50% | 3 | 12 | 25% | 3 | 26 | 62% |
| 4+ | 14 | 79% | 4+ | 7 | 29% | 4+ | 17 | 53% |
| Total | 149 | 29% | Total | 155 | 10% | Total | 203 | 30% |

Note. Table includes cases where we could confidently assert the accuracy of the selection. Table excludes cases where the respondent refused to provide birthdate information about adult household members as well as households where multiple household members share birth months or have a birthday during the data collection month.

Table 6. Second invitation mail experiment

| Second invitation mail type | Total sample | Web1 | Phone ¹ | Web + Phone¹ | Completes/ Total | Unweighted RR ² | Weighted RR ² |
|-----------------------------|-----------------|------|--------------------|-----------------|---------------------|-------------------------------|-----------------------------|
| Standard (First-class) | 2,850 | 51 | 21 | 72 | 2.5% | 18.2% | 9.0% |
| Priority | 2,849 | 86 | 51 | 137 | 4.8% | 20.2% | 10.1% |
| Certified | 2,849 | 150 | 38 | 188 | 6.6% | 27.2% | 14.4% |

Note. ¹ Completes since second invitation mailing on May 15, 2018. ² Unconditional (or overall) response rates including pre-second invitation completes in each experimental condition.

| Table 7. Summary of key indicator | | when America Country |
|-----------------------------------|----------------|-----------------------|
| Table 7. Summary of Key Indicator | comparisons re | or Los Angeles County |
| | | |

| | Experiment | | Web vs. | |
|------------------------|-------------|--|-------------------|--|
| Variable | vs. Control | Finding | CATI ¹ | Finding |
| Sociodemographic | | | | |
| Gender | | | | |
| Age | | | **** | CATI added more 65+ |
| Marital status | | | | |
| Family type | | | | |
| Presence of children | * | EXP had less children | | |
| Education | * | EXP has more HS and college grads | | |
| Poverty status | | | | |
| Sexual orientation | | | | |
| Transgender | | | | |
| Racial group | | | | |
| Country of birth | ** | EXP had less from Mexico/Central America | | |
| English proficiency | **** | EXP had more "Very well", less "Not at all" | * | CATI added more "Not well" |
| Citizenship | | | | |
| Health Outcomes | | | | |
| Self-rated health | **** | EXP had more "Excellent/ Very good/Good" | | |
| Diabetes | * | EXP had less diabetes | *** | CATI added more diabetes |
| Hypertension | | | ** | CATI added more HBP |
| Asthma | | | | |
| BMI classification | | | | |
| Psychological distress | | | *** | Web added more w/ recent psych. distress |
| Suicidal thoughts | | | | |
| Health Behaviors | | | | |
| Current smoker | | | | |
| E-cigarette use | | | | |
| Health Care and Access | | | | |
| Have insurance | | | | |
| Delay getting Rx | | | | |
| Delay getting care | | | | |
| Usual source of care | | | | |

Note. Control (n = 1,014); Experiment (n = 251); Web (n = 208); CATI (n = 43). ¹ Within the experiment. * p < 0.05; ** p < 0.01; **** p < 0.001; **** p < 0.0001

| Table 8. Summary | / of key | indicator co | mparisons f | for Santa | Clara County |
|--------------------|----------|--------------|-------------|-----------|--------------|
| rable of barminary | 01.100 | maioator oc | | or barrea | ciara county |

| | Experiment | | Web vs. | |
|------------------------|-------------|--|-------------------|--|
| Variable | vs. Control | Finding | CATI ¹ | Finding |
| Sociodemographic | | | | |
| Gender | | | | |
| Age | | | **** | CATI added more 80+ |
| Marital status | | | * | CATI added "Widowed/ Separated/Divorced" |
| Family type | * | EXP had more married households | * | CATI added more single, no kids |
| Presence of children | | | ** | CATI added more |
| Education | * | EXP had less "less than high school" | ** | CATI added more "some college/trade school" |
| Poverty status | **** | EXP had less <200% FPL | | |
| Sexual orientation | | | | |
| Transgender | | | | |
| Racial group | | | | |
| Country of birth | | | | |
| English proficiency | * | EXP had more "Very well", less "Not at all" | | |
| Citizenship | | | | |
| Health Outcomes | | | | |
| Self-rated health | * | EXP had more "Excellent/ Very good/Good" | * | CATI added more "Fair/Poor" |
| Diabetes | | | | |
| Hypertension | | | **** | CATI added more HBP |
| Asthma | | | | |
| BMI classification | | | | |
| Psychological distress | | | | |
| Suicidal thoughts | | | | |
| Health Behaviors | | | | |
| Current smoker | | | ** | CATI added more smokers |
| E-cigarette use | | | | |
| Health Care and Access | | | | |
| Have insurance | ** | EXP had more insured | | |
| Delay getting Rx | | | | |
| Delay getting care | | | | |
| Usual source of care | | | | |
| | | | | |

Note. Control (n = 276); Experiment (n = 290); Web (n = 258); CATI (n = 32). ¹ Within the experiment. * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001

| Table 9. Summa | y of key indic | ator compariso | ns for Tulare County |
|----------------|----------------|----------------|----------------------|
|----------------|----------------|----------------|----------------------|

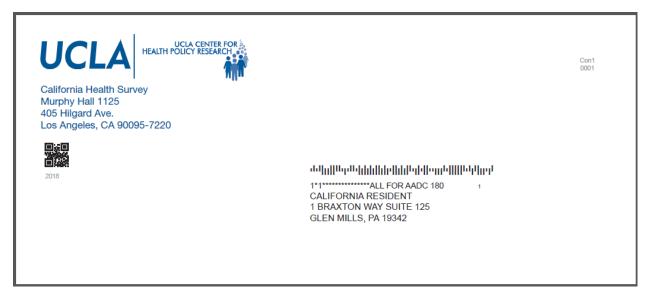
| | Experiment | | Web vs. | |
|------------------------|-------------|--|-------------------|---|
| Variable | vs. Control | Finding | CATI ¹ | Finding |
| Sociodemographic | | | | |
| Gender | | | | |
| Age | | | ** | CATI added more 80+ |
| Marital status | | | | |
| Family type | | | | |
| Presence of children | | | | |
| Education | **** | EXP had more HS grads | | |
| Poverty status | * | EXP had less <200% FPL | ** | CATI had fewer <200% FPL |
| Sexual orientation | | | | |
| Transgender | | | | |
| Racial group | | | | |
| Country of birth | ** | EXP had less from Mexico/Central America | | |
| English proficiency | ** | EXP had more "Very well", less "Not at all" | | |
| Citizenship | **** | EXP had less non-citizens | | |
| Health Outcomes | | | | |
| Self-rated health | | | | |
| Diabetes | | | | |
| Hypertension | | | * | CATI added more HBP |
| Asthma | | | * | Web added more asthma |
| BMI classification | | | | |
| Psychological distress | ** | EXP had more serious psych. distress | | |
| Suicidal thoughts | | | ** | Web added more w/ suicidal thoughts |
| Health Behaviors | | | | |
| Current smoker | | | * | CATI had more smokers |
| E-cigarette use | ** | EXP had more e-cig. use | | |
| Health Care and Access | | | | |
| Have insurance | | | | |
| Delay getting Rx | | | ** | Web had more Rx delay |
| Delay getting care | | | | |
| Usual source of care | | | * | CATI added more with a usual source of care |

Note. Control (n = 180); Experiment (n = 251); Web (n = 201); CATI (n = 50). ¹ Within the experiment. * p < 0.05; ** p < 0.01; *** p < 0.001; **** p < 0.0001

Appendix A – Recruitment Material Examples

- First Invitation Envelope
- First Invitation Next Birthday
- First Invitation Age Order (Condition 2C)
- First Invitation Back page
- First Invitation Multilingual Letter
- Reminder Postcard (outside)
- Reminder postcard (inside) Next Birthday
- Reminder postcard (inside) Age Order (Condition 2B)
- Second Invitation Certified mail
- Second Invitation Priority envelope
- Second Invitation Next Birthday
- Second Invitation Age Order (Condition 2C)
- Teen Text Message Invitation
- Teen Text Message Reminder
- Teen Email Invitation
- Teen Email Reminder
- Teen Invitation Letter
- Teen Reminder Letter

First Invitation – Envelope



First Invitation – Next Birthday



California Resident 1 Braxton Way Suite 125 Glen Mills, PA 19342 April 3, 2018

Dear California Resident,

Your household has been randomly selected for this year's California Health Survey.

This important survey is conducted by UCLA and collects information on the health of people in California and about issues they have getting health care. The results may help people and families in your community. Your household has been selected to represent many other households like yours.

Step 1: Identify who should complete the survey

Please have the adult, age 18 years of age or older, in your household who has the **next birthday** complete the survey.

If you are not the selected adult, please share this information with the selected adult and ask them to complete the survey by going to the website listed below.

Step 2: Respond now!

www.cahealthsurvey.com

Your secure access code is: 12121212

We are not selling anything or asking for money. To thank you in advance, we are enclosing a \$2 bill. This small gift is for you to keep whether or not you decide to participate (this money is not from State or local taxes).

If you do not have access to the internet or would prefer to complete the survey over the phone, please call 1-888-978-4645.

Your help is very important to this study's success. Thank you for your cooperation.

Sincerely,

n

Dr. Ninez Ponce Principal Investigator, California Health Survey

10960 Wilshire Boulevard, Suite 1550, Los Angeles, CA 90024

Con1 88888888

First Invitation – Age Order (Condition 2C)



California Resident 1 Braxton Way Suite 125 Glen Mills, PA 19342

April 3, 2018

Dear California Resident,

Your household has been randomly selected for this year's California Health Survey.

This important survey is conducted by UCLA and collects information on the health of people in California and about issues they have getting health care. The results may help people and families in your community. Your household has been selected to represent many other households like yours.

| 5 | Step 1: Identif | y who should con | plete the survey | |
|-----------------|-------------------|--|---|--------------------|
| How many adults | , 18 years of age | or older, are in your | household? | |
| One adult: | You should | complete the survey. | | |
| Two adults: | The older a | dult should complete th | e survey. | |
| Three or more a | | ee oldest adults in order the list should complet | from oldest to youngest e the survey. | . The third |
| | 1 | 2 | 3 | |
| | | please share this inform to the website listed be | ation with the selected adu slow. | lt and ask |
| | S | itep 2: Respond n | ow! | |

www.cahealthsurvey.com

Your secure access code is: 12121212

We are not selling anything or asking for money. To thank you in advance, we are enclosing a \$2 bill. This small gift is for you to keep whether or not you decide to participate (this money is not from State or local taxes).

If you do not have access to the internet or would prefer to complete the survey over the phone, please call 1-888-978-4645.

Your help is very important to this study's success. Thank you for your cooperation.

Sincerely,

hould

Dr. Ninez Ponce Principal Investigator, California Health Survey

10960 Wilshire Boulevard, Suite 1550, Los Angeles, CA 90024

Con2.3 88888888

Frequently Asked Ouestions

What is the California Health Survey?

The California Health Survey is an annual health survey of 20,000 households in California. The information collected during the survey gives researchers, community members, and public agencies a clear picture of the current health and health needs for counties across the state. This survey was first conducted in 2001. The information may improve health programs where they are needed most.

How did you get my address?

Your address was randomly chosen from all the addresses in your area. This is a scientific process to choose survey participants like yourself.

Why can't anyone in my household answer the survey?

Scientific studies like the California Health Survey depend on a randomly chosen individual for each household to ensure we talk to a diverse group of people. We select this person following the instructions on the front of this letter so the results will not be biased and will reflect the opinions and needs of all Californians.

How do I know you will keep my information confidential?

Keeping your information confidential is our top priority. We process all your contact information and survey answers so that responses cannot be connected with an individual person or address after the data collection is complete. Everyone working on this study is required to protect the confidentiality and rights of the people who participate, according to the strict rules of the UCLA Office for Protection of Research Subjects, and the State of California's Committee for the Protection of Human Subjects. As required by the Privacy Act, the legislative authority for this survey is 42 USC 285.

How long will the survey take?

The California Health Survey takes approximately 30 minutes to complete depending on your specific situation. If you have a child, we may ask you additional questions about your child. If you have a teenager (ages 12-17), we may ask to interview one teen after receiving permission from a parent.

Am I required to complete this survey?

Participation is voluntary and there is no penalty if you choose not to participate. You can answer as many or as few questions as you want. Keep in mind that your household was randomly selected as part of a scientific sample, and you cannot be replaced with another household. Your cooperation is extremely important to help ensure the completeness and accuracy of the results.

Who provides the funding for the California Health Survey?

Major funders of this survey include the California Department of Health Care Services (DHCS), DHCS Mental Health Services Division, California Department of Public Health, California Health Benefit Exchange, First 5 California, The California Endowment, California HealthCare Foundation, and Kaiser Permanente.

How can I obtain more information?

For additional information, please visit our website at www.californiahealthsurvey.org.

First Invitation – Multilingual Letter (front: Spanish and Chinese)



Estimado residente:

Su hogar ha sido seleccionado al azar para participar en la Encuesta de Salud de California correspondiente a este año.

UCLA lleva a cabo esta importante encuesta con el fín de recopilar información sobre la salud de los residentes en California y los problemas que enfrentan para obtener atención médica. Los resultados pueden ayudar a las personas y a las familias de su comunidad. Su hogar ha sido seleccionado para representar a muchos otros hogares como el suyo.

Si desca realizar la encuesta en inglés, por favor siga las instrucciones que se dan en la carta adjunta redactada en inglés para responder a la encuesta en línea.

Si no desea realizar la encuesta en inglés, llame al 1-888-978-4645 para responderla por teléfono con un encuestador que hable en Español.

No estamos vendiendo nada ni estamos pidiendo dinero. Para agradecerle de antemano, le adjuntamos un billete de \$2 dólares. Es un pequeño obsequio que usted puede conservar ya sea que decida participar o no (este dinero no proviene del estado ni de los impuestos locales).

Para obtener más información acerca de la Encuesta de Salud de California, visite www.californiahealthsurvey.org.

Su ayuda es muy importante para el éxito de este estudio. Gracias por su cooperación.

Dra. Ninez Ponce

Investigadora principal, Encuesta de Salud de California

尊敬的加州居民:

您的家庭已被隨機選中參加今年的加州健康調查。

本重要的電話調查由洛杉磯加大(UCLA)進行,收集關於加州人健康及加州人保健服務享用事宜的資訊。結果可助您社區內的人士及家庭。您的家庭被選中,作為許多其他與您的家庭狀況類似的家庭代表。

如果您方便以英文完成調查,請按照隨附的英文信函中的說明進行網上回應。

如果您不方便以英文完成調查,請致電1-866-315-3969,通過能講中文的訪問員完成調查。

我們不會向您銷售任何產品或向您募款。為了提前感謝您,我們隨信附上兩美元。無論您是否決定參加,請您收 下這份小禮物(這筆錢並非來白州稅或地方稅)。

有關加州健康問卷調查的更多信息,請訪問 www.californiahealthsurvey.org。

您的幫助對這項研究的成功是非常重要的。謝謝您的合作。

順致敬意!

Ninez Ponce 博士

加州健康問卷調查首席研究負責人

First Invitation – Multilingual Letter (back: Korean, Vietnamese, Tagalog)



캘리포니아 주민께,

귀 가장이 올해 실시되는 가주 건강 실문조사 대상으로 부작위로 선정되셨습니다.

이 중요한 전화 실문조사는 UCLA 에서 실시하며 캘리포니아 주민들의 건강과 주민들이 받고 있는 의료 문제에 대한 정보를 수집합니다. 실문 결과는 캘리포니아 지역사회 주민과 가족에게 도움이 될 수 있습니다. 귀 가정은 귀탁과 같은 수많은 다른 가구들을 대표하기 위해 선정되었습니다.

본 설문조사를 영어로 작성하는 데 문제가 없으신 경우에는 동봉된 영어 시신의 안내에 따라 온라인으로 응답해 주십시오.

본 십문조사를 영어로 작성하는 데 어려움이 있으신 경우에는 1-866-315-3969 번으로 전파를 건어 한국어를 구사하는 십문 진행자와 함께 전파로 설문조사를 완료해 주십시오.

지회는 무엇을 팔려고 하거나 기부를 부탁하는 것이 아닙니다. 참여해 주실 것에 대한 감사의 표시로 미리 \$2 를 함께 보냅니다. 이 돈은 귀하의 실문조사 참여 여부와 상관없이 드리는 작은 선물입니다. (주 정부나 지역 정부의 세금으로 마련된 것이 아닙니다.)

캘리포니아주 보건 설문조사에 관한 자세한 정보를 원하시면 <u>www.californiahcalthsurvey.org</u> 를 방문해 주십시오.

이 연구를 성공적으로 수행하기 위해서는 귀하의 참여가 부엇보다도 중요합니다. 협조해 주셔서 감사합니다.

캘리포니아 보건 실문 조사 연구 총 책임자

니네즈 폰스 (Ninez Ponce) 박사 드릮

Kính Gửi Cư Dân California,

Gia đình của quý vị được chon ngẫu nhiên để trả lời Khảo Sát Sức Khỏe Tiểu Bang California trong năm nay.

Đây là khảo sát qua điện thoại quan trọng được thực hiện bởi UCLA và thu thập thông tin vềsức khỏe của người dân tại California và vềnhững vấn đềmà họ gặp phải khí được chăm sóc sức khỏe. Kết quả có thể giúp ích cho người dân và gia đình trong cộng đồng của quý vị. Gia đình của quý vị đã được chọn để đại diện cho nhi 'ài gia đình khác giống như trường hợp của quý vị.

Nếu quý vị cảm thấy thoải mái khi tham gia khảo sát bằng tiếng Anh, vui lòng thực hiện theo các hướng dẫn trên bức thư bằng tiếng Anh đính kèm để trả lời trực tuyến.

Nếu quý vị cảm thấy không thoải mái khi tham gia khảo sát bằng tiếng Anh, vui lòng gọi số 1-866-315-3969 để tham gia khảo sát qua điện thoại với một người phỏng vấn nói bằng Tiếng Việt.

Chúng tôi không bản gì cả và cũng không xin quyên tiền. Để cảm ơn quý vị trước, chúng tôi xin gửi kèm theo đây S2. Đây là một món quà nhỏ dành cho quý vị cho dù quý vị có quyết định tham gia hay không (món tiền này không phải lấy từ tiền thuế của tiểu bang hay của địa phương).

Để biết thêm thông tin v ềKhảo Sát Sức Khỏe Tiểu Bang California, vui lòng truy cập www.californiahealthsurvey.org.

Sự tham gia của quý vị vô cùng quan trọng cho thành công của nghiên cứu này. Xin cảm ơn sự tham gia của quý vị.

Trân trọng.

Dr. Ninez Ponce

Trưởng ban Khảo sát, Khảo Sát Sức Khỏe Tiểu Bang California

Mahal na Residente ng California,

Ang inyong sambahayan ay napili nang random (o hindi sinadya ang pagpili) para sa California Health Survey (Survey Tungkol sa Kalusugan sa California) para sa taon na ito.

Ang mahalagang survey na ito sa telepono ay isinasagawa ng UCLA at nangongolekta sila ng impormasyon tungkol sa kalusugan ng mga taga-California at tungkol sa mga isyu sa pagkuha ng pangangalaga sa kalusugan. Ang mga resulta ay maaaring makatulong sa mga tao at pamilya ng inyong komunidad. Ang inyong sambahayan ay napili bilang isang representatibo sa iba pang maraming sambahayan tulad ng inyo.

Kung kumportable kayong kumpletuhin ang survey sa Ingles, sundan lamang ang mga tagubilin na nakalakip sa liham na nakasulat sa Ingles upang makasagot nang online.

Kung hindi kayo kumportable na kumpletuhin ang survey sa Ingles, tumawag lamang sa 1-866-315-3969 upang makumpleto ang survey gamit ang telepono sa tulong ng isang taga-interbyu na nagsasalita ng Tagalog.

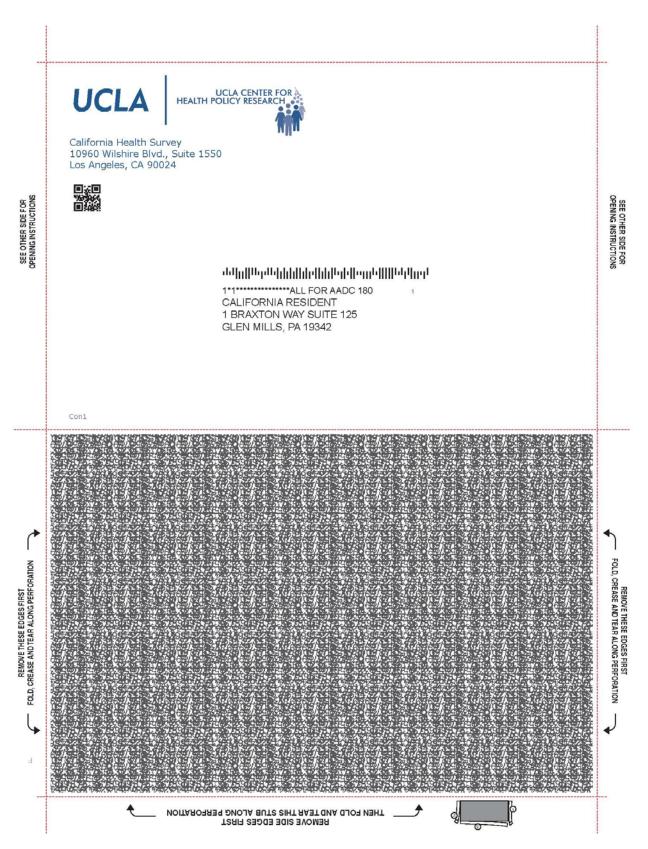
Hindi po kami nagbebenta ng anuman o nanghihingi ng pera. Bilang paunang pasasalamat, naglalakip kami ng \$2. Ang munting regalong ito ay para sa inyo, magpasya man kayong lumahok o hindi (hindi nagmula ang perang ito sa buwis ng Estado o sa lokal na buwis).

Para sa karagdagan pang impormasyon tungkol sa California Health Survey (Survey Tungkol sa Kalusugan sa California), pumunta lamang sa www.californiahealthsurvey.org.

Napakamahalaga ang inyong tulong sa tagumpay ng pagsusuring ito. Salamat sa inyong pakikipagtulungan.

Taos-puso,

Reminder Postcard (outside)



Reminder Postcard (inside) – Next birthday

| 1/2" |
|--|
| UCLA CENTER FOR HEALTH POLICY RESEARCH |
| Dear California Resident, |
| Last week, we mailed you a letter asking for your help with the California Health Survey , a study about the health of people in California and issues they have getting health care. |
| If you or someone in your household has already completed the questionnaire, please accept our sincere thanks. If you have not already responded, please have the adult, age 18 years or older, with the next birthday go to the website listed below to complete the survey. |
| Respond now at www.cahealthsurvey.com Your secure access code is: 12121212 |
| If you do not have access to the internet or would prefer to complete the survey over the phone, please call 1-888-978-4645. |
| Thank you. |
| 5-1/2" |
| Estimado(a) residente de California, Hemos tratado de comunicarnos con usted sobre su participación en la Encuesta de Salud de California, pero aún no hemos recibido su respuesta. |
| Esta importante encuesta es su oportunidad para hacerse oír con respecto a temas de salud. |
| Si desea realizar la encuesta en inglés, siga las instrucciones que aparecen arriba para responderla en línea. |
| Si no desea realizar la encuesta en inglés, llame al 1-844-628-1521 para responderla por teléfono con un encuestador que hable en español. |
| Gracias por su cooperación. |
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Reminder Postcard (inside) – Age Order (Condition 2B)

| UCLA HEALTH POLIC | Y RESEARCH | 1/2" |
|---|--|---|
| Dear California Resident, | | |
| | | h the California Health Survey , they have getting health care. |
| accept our sincere thanks. If | usehold has already complete you have not already respond erson who should go to the w | ed the questionnaire, please led, please follow the instructions ebsite listed below to complete |
| | nd now at www.cahealths r secure access code is: 1 2 | |
| If you do not have access to phone, please call 1-888-978 | | o complete the survey over the |
| Thank you. | | |
| | | 5-1/2" |
| | | |
| How many adults, One adult | , 18 years of age or older, a Two adults | are in your household? Three or more adults |
| | | |
| | | Three or more adults t t t t List the three youngest adults in order from youngest to oldest. The second person on this list should complete the survey. |
| One adult T You should complete the | Two adults t t The younger adult should complete the | Three or more adults t t t t List the three youngest adults in order from youngest to oldest. The second person on this list should complete the survey. 1 |
| One adult T You should complete the | Two adults t t The younger adult should complete the | Three or more adults t t t t List the three youngest adults in order from youngest to oldest. The second person on this list should complete the survey. |
| One adult T You should complete the | Two adults t t The younger adult should complete the | Three or more adults |

Second Invitation – Certified mail



Second invitation – Priority envelope



Second Invitation – Next Birthday



California Resident 1 Braxton Way Suite 125 Glen Mills, PA 19342 April 3, 2018

Dear California Resident,

Now is the time to respond

The UCLA Center for Health Policy Research has sent you requests over the last couple of weeks to complete the **California Health Survey**. To the best of our knowledge, we have not yet received your responses.

If you do not have access to the internet or want to complete the survey over the phone, please call 1-888-978-4645.

Why your response is important

The California Health Survey is used by multiple State and local agencies and departments to understand and improve the health of Californians in your community. We are writing again because of the importance that your responses has for helping to get accurate results.

Who should complete the survey

To ensure our results are not biased, we are asking for one specific adult, 18 years of age or older, from your household to respond. Please have the adult who has the **next birthday** be the one to complete the survey.

Respond now at www.cahealthsurvey.com Your secure access code is: 12121212

If you do not respond soon, an interviewer may contact you by phone to complete the survey.

Thank you for your prompt response.

Sincerely,

provel

Dr. Ninez Ponce Principal Investigator, California Health Survey

10960 Wilshire Boulevard, Suite 1550, Los Angeles, CA 90024

20001

Second Invitation – Age Order (Condition 2C)



California Resident 1 Braxton Way Suite 125 Glen Mills, PA 19342 April 3, 2018

Dear California Resident,

Now is the time to respond

The UCLA Center for Health Policy Research has sent you requests over the last couple of weeks to complete the **California Health Survey**. To the best of our knowledge, we have not yet received your responses.

If you do not have access to the internet or want to complete the survey over the phone, please call 1-888-978-4645.

Why your response is important

The California Health Survey is used by multiple State and local agencies and departments to understand and improve the health of Californians in your community. We are writing again because of the importance that your responses has for helping to get accurate results.

Who should complete the survey

To ensure our results are not biased, we are asking for one specific adult, 18 years of age or older, from your household to respond. If you are the **only adult** in your household, then go to the website below and respond now. If there are **two adults** in your household, please have the **older adult** go and complete the survey. If there are **three or more adults** in your household, the **third oldest adult** should complete the survey.

Respond now at www.cahealthsurvey.com

Your secure access code is: 12121212

If you do not respond soon, an interviewer may contact you by phone to complete the survey.

Thank you for your prompt response.

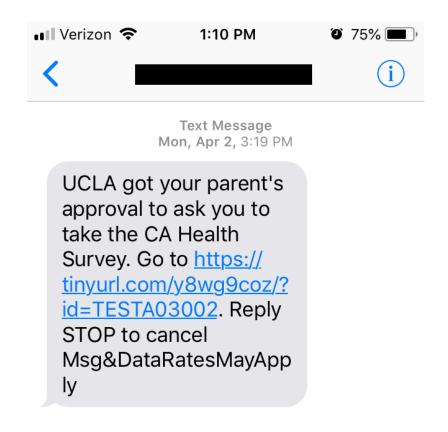
Sincerely,

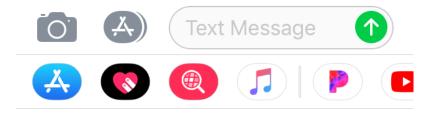
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Dr. Ninez Ponce Principal Investigator, California Health Survey

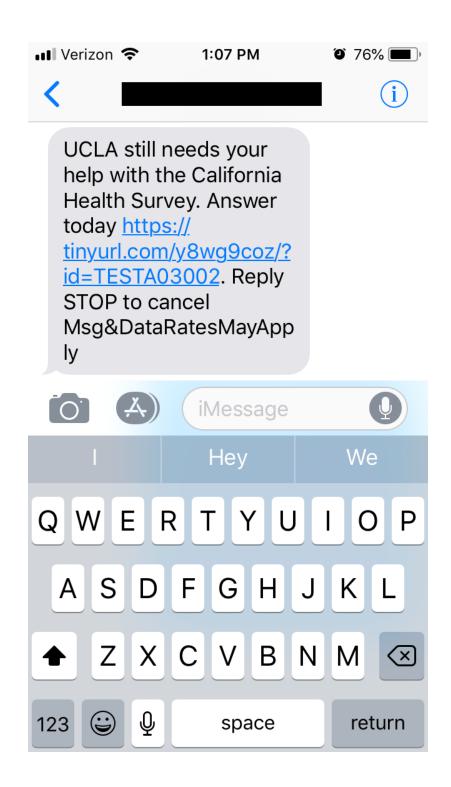
10960 Wilshire Boulevard, Suite 1550, Los Angeles, CA 90024

2Con2.3 88888888 Teen Text Message Invitation

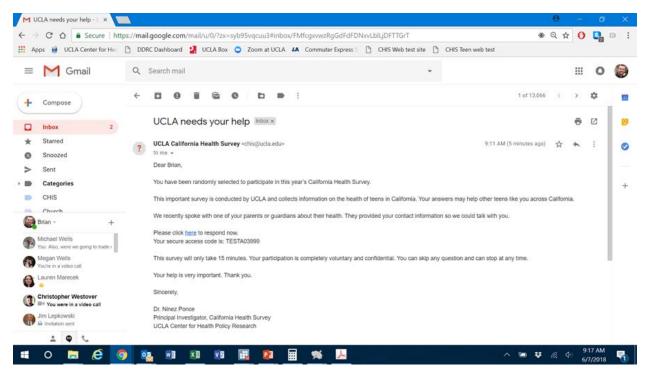




Teen Text Message Reminder



Teen Email Invitation



Teen Email Reminder (text only)

From: chis@ucla.edu [UCLA California Health Survey]

Subject: UCLA is waiting for your reply

Dear <<ADOLESCENT'S FIRST NAME>>,

Last week, we emailed you an invitation to participate in the California Health Survey, a study about the health of people in California.

According to our records, we have not yet received your responses. If you already completed the survey, thank you.

To respond now, click <u>here</u>.

Your secure access code is: <<SAC>>

This important survey will only take 15 minutes and will help organizations across the State to better serve teens like you with their health and health care needs.

Thank you for your help.

Sincerely,

Dr. Ninez Ponce Principal Investigator, California Health Survey UCLA Center for Health Policy Research **Teen Invitation Letter**



John Q. Teen 1 Braxton Way Suite 125 Glen Mills, PA 19342 April 3, 2018

Dear John,

You have been randomly selected to participate in this year's California Health Survey.

This important survey is conducted by UCLA and collects information on the health of teens in California. Your answers may help other teens like you across California.

We recently spoke with one of your parents or guardians about their health. They provided your contact information so we could talk with you.

Respond now at www.cahealthsurvey.com/teen

Your secure access code is: 12121212

This survey will only take 15 minutes. Your participation is completely voluntary and confidential. You can skip any question and can stop at any time.

Your help is very important to this study's success. Thank you.

Sincerely,

pro

Dr. Ninez Ponce Principal Investigator, California Health Survey UCLA Center for Health Policy Research

10960 Wilshire Boulevard, Suite 1550, Los Angeles, CA 90024

Teen3 88888888 **Teen Reminder Letter**



April 3, 2018

John Q. Teen 1 Braxton Way Suite 125 Glen Mills, PA 19342

Dear John,

Now is the time to respond

Over the last couple of weeks, we have tried contacting you to complete the California Health Survey. Our records show that we do not have your response yet.

Why your response is important

This statewide study collects information on the health and experiences of teens across California. Your answers may help state organizations better help other teens like you.

Why we need you

You were randomly selected out of all the teens in California to participate in this study. Without your responses, our results will not accurately reflect the needs and challenges of California's youth.

Respond now at www.cahealthsurvey.com/teen

Your secure access code is: 12121212

If you do not respond soon, an interviewer may contact you by phone to complete the survey.

Thank you for your quick response.

Sincerely,

pro

Dr. Ninez Ponce Principal Investigator, California Health Survey UCLA Center for Health Policy Research

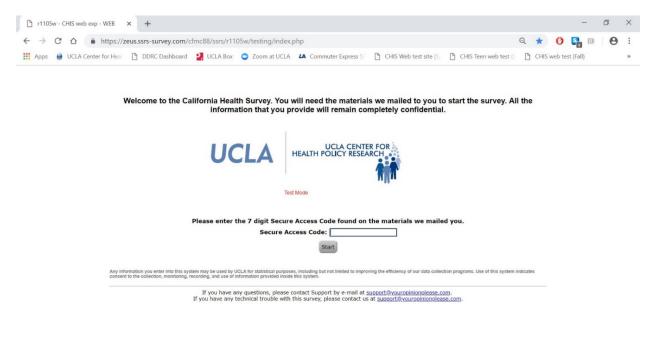
10960 Wilshire Boulevard, Suite 1550, Los Angeles, CA 90024

Teen 4

Appendix B – Examples of Web Instrument Screens

- Welcome Screen
- Consent Script
- Security Setup Screens
- Assorted Question Screens
- Teen Permission Screens

Welcome Screen



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Consent Script

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| | Test Mode | |
| | UCLA The California Health Survey | |
| | INFORMED_CONSENT. This survey is voluntary and confidential. You can skip any question, and you can stop at any time, | |
| | The survey takes about 30 minutes on average, but may be as short as 20 minutes. There are questions about your health, diet and exercise, sexual behaviors, violence, suicide, emotional health and treatment for mental health problems, and your healthcare and insurance. | |
| | The University of California at Los Angeles (UCLA) has very strict safeguards to protect your confidentiality. | |
| | We make every effort to protect your identity. Your address will be kept in a secure data center for research to better understand how health is related to where people live. Other information that could identify you, like your name and contact information will be erased after the study is completed. Your other answers will be combined with the answers of other participants and shared with researchers to better understand the health of Californians. Your address will be erased after conversion into latitude and longitude for research purposes. | |
| | For more information about the rights of research subjects, please contact the Office for the Protection of Research Subjects at 1-310-825-8714. | |
| | If you have questions, please refer to the Frequently Asked Questions here. | |
| | If you have further questions, please contact Dr. Ninez Ponce who can be reached toll-free at 1-866-275-2447. | |
| | By clicking 'Next' you understand and agree to participate in the California Health Survey. | |
| | (Please click 'NEXT' to continue) | |
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Security Setup Screens

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| | Please create a Personal Security Code below. It must be 10 characters, and can be any combination of letters and numbers. | |
| | If you need to stop taking the survey for any reason, when you return to the survey link you will need to reenter the Secure Access Code that was provided in the letter and the new Personal Security Code you create below, so please make a note of it. | |
| | Personal Security Code: | |
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| | Back Next | |
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| | Questions?support@youropriocoelease.com | |
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| AE7. During the past month, how many times did you eat any other vegetables like green salad, green beans, or potatoes? Do not include fried | |
| AC/: County one past industry now many times on by our ear any other vegetables like green search, yreen bears, or potatoest bo not include mea potatoes. Please enter if this is per day, per week, or per month. | |
| Other vegetables include tomatoes, carrots, onions, or broccoli. Rice is not a vegetable. | |
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| AJ29. The following questions ask about how you have been feeling o best describes how often you had this feeling. | luring the past 30 d | ays. For each c | question, pleas | e mark the cal | tegory that | | |
| About how often during the past 30 days did you feel | All of the time | time | time | A little of the time | time | he | |
| AJ29nervous? AJ30hopeless? | 0 | | 0 | 0 | 0 | | |
| AJ31restless or fidgety? | | 0 | 0 | . 0 | 0 | | |
| AJ32so depressed that nothing could cheer you up? | 0 | 0 | ۲ | | 0 | | |
| AJ33that everything was an effort? | 0 | 0 | 0 | 0 | 0 | | |
| AJ34worthless? | 0 | ۲ | ۲ | ۲ | ۲ | | |
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| TP1. We would also like to interview Brian who is 13 years old and male for our study. It's a web survey and should take him about 15 minutes to complete. | | | | |
| Questions in the teen survey are a lot like the ones you are answering, but it is much shorter. It covers a range of health issues including general health, diet, exercise, and other healthy and unhealthy habits like smoking and drinking alcohol, and using drugs. There are also some questions about bullying, violence, and sexual behavior. There are a few questions about suicide thoughts or attempts because it is such a serious health concern. We provide counseling and support information for any teen in need. | | | | |
| Brian can skip any questions he wants or stop the survey at any time. Like your answers, his answers are kept strictly confidential and are combined with the answers of other teenagers for research purposes only. His name is never connected with those answers. His name and any contact information we have will be erased from our records after the study is complete. | | | | |
| For more information about the rights of research subjects, please contact the Office for the Protection of Research Subjects at 1-310-825-8714. | | | | |
| Do we have your permission to contact Brian and ask him if he will participate in the survey? | | | | |
| Yes | | | | |
| No | | | | |
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| TP1_RC. We understand that you would prefer that your teen not participate in the interview. | | | | | l |
| However, these are important public health issues facing California. Some parents choose to not let their teen participate because they are not comfortable having their teen answer questions about drugs or sexual behavior. If you prefer, we can make sure that questions about drugs or sexual behavior are not included in the survey. | | | | | |
| Do we have your permission to contact Brian and ask him if he will participate in the survey if we exclude questions on drugs or sexual behavior? | | | | | l |
| Yes if excluding questions on drugs | | | | | 1 |
| Yes if excluding questions on sexual behavior | | | | | 1 |
| Yes if excluding questions on drugs and sexual behavior | | | | | 1 |
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| TP3. We would like your permission to contact Brian on their cellphone. By providing Brian's cell phone number, you grant the California Health Survey permission to text and/or call your teen for the survey. He will be texted no more than two invitations to the survey. You also grant permission that in the event he does not complete the web survey then an interviewer may call your teen and have him complete the survey over the phone. This phone number will be erased from our records after the study is complete. Would you please provide Brian's telephone number and how we may contact him for the survey? | | | | |
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| TP4. We would like your permission to contact Brian through his email. By providing Brian's email address, you grant the California Health Survey permission to email him a link to the survey with their unique access code. This email address will be erased after the study is complete. Would you please provide Brian's email address so that we may email him a link to the survey? Email Address Please confirm the email address: | | | | | |
| Back Next Questions? support@youropinionplease.com If you have any technical trouble with this survey, please contact us at support@youropinionplease.com For additional instructions on how to complete this survey, Please.click.here Exit Survey | | | | | |
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