

## SURVEY METHODOLOGY

### Brief Overview

The survey of views and experiences of serious illness and end of life care was conducted in English and Spanish from June 6 through July 2, 2019, among a representative sample of 2,588 Californians 18 and older, including 1,276 respondents who have lost a loved one in the past two years. The margin of error is  $\pm 3.1$  percentage points for the total results.

The survey was administered primarily using Ipsos' KnowledgePanel, which is the first online research panel in the country that is representative of the U.S. population. Panel members are randomly recruited through address-based sampling (ABS) methods, and households are provided with access to the Internet and hardware if needed. The survey boosted the number of Black respondents by using supplemental, nonprobability sample. See detailed information about KnowledgePanel on page 5.

### Detailed Methodology

#### Eligibility Criteria

To qualify for the survey, the respondent had to be a California resident and age 18 or older.

#### Sample Design

Overall, the sample for this survey was designed to target the following numbers of respondents.

- 800 under 150% federal poverty level (FPL)
- 800 between 150% and 399% FPL
- 800 at 400% FPL and above

To boost the number of Black respondents, a blend of external (opt-in) online panel sources were used: Precision Sample, Dynata, and P2Sample. Additional in-field screening for the external sample was conducted to confirm respondent age, state, race/ethnicity, and federal poverty level groups.

## Study-Specific Post-Stratification Weights

In all KnowledgePanel surveys, once all survey data have been collected and processed, design weights are adjusted to account for any differential nonresponse that may have occurred. Depending on the specific target population for a given study, geodemographic distributions for the corresponding population are obtained from the U.S. Census Bureau's Current Population Survey (CPS) or American Community Survey (ACS), or in certain instances from the weighted KnowledgePanel profile data. For this purpose, an iterative proportional fitting (raking) procedure is used to produce the final weights. In the final step, calculated weights are examined to identify and, if necessary, trim outliers at the extreme upper and lower tails of the weight distribution. The resulting weights are then scaled to aggregate to the total sample size of all eligible respondents.

For this study, the following benchmark distributions of adults 18 and older who are California residents from the U.S. Census Bureau's ACS 2017 data were used for the raking adjustment of weights:

ALL\_WGT1/ ALL\_WGT2:

Within cell level — (Non-AA FPL <150%, Non-AA FPL 150%-400%, Non-AA FPL 400%+, AA FPL <150%, AA FPL 150%-400%, AA FPL 400%+)

- Gender (Male, Female)
- Age (18–29, 30–39, 40–49, 50–59, 60+)
- Race/Ethnicity (White, Black, Other, Hispanic, 2+ Races) — collapse some cells
- Education (Less than HS, HS, Some College, Bachelor or Higher) — collapse some cells
- Household Income (under \$25K, \$25K–\$49,999, \$50K–\$74,999, \$75,000–\$99,999, \$100,000–\$149,999, \$150,000 and over) — collapse some cells
- ACSLANG: (English Proficient Hispanic, Bilingual Hispanic, Spanish Proficient Hispanic, Non-Hispanic)
- Var1 (1='Less than 3 hrs/day in All Other RACES', 2='3+ hrs/day in All Other RACES', 3='All Else')
- Var2 (1='Less than 10 hrs/week in All Other RACES', 2='10+ hrs/week in All Other RACES', 3='All Else')
- Var3 (1='Less than a month or more often in All Other RACES', 2='Not at all in All Other RACES', 3='All Else')

Overall:

- Gender (Male, Female) by Age (18–29, 30–39, 40–49, 50–59, 60+)
- Race/Ethnicity (White, Black, Other, Hispanic, 2+ Races)
- Education (Less than HS, HS, Some College, Bachelor or Higher)
- Household Income (under \$25,000, \$25,000-\$49,999, \$50,000-\$74,999, \$75,000-\$99,999, \$100,000-\$149,999, \$150,000 and over)

Design Effect:  
 KP\_WGT: 2.0608  
 ALL\_WGT1: 2.6028  
 ALL\_WGT2:  
     Non-AA: 2.0790  
     AA: 2.3736

MOE:  
 KP\_WGT:  $\pm 3.11\%$   
 ALL\_WGT1:  $\pm 3.11\%$   
 ALL\_WGT2:  
     Non-AA:  $\pm 3.27\%$   
     AA:  $\pm 5.62\%$

### Study-Specific Response Rate

KnowledgePanel is a probability-based panel. By definition, all members of KnowledgePanel have a known probability of selection. As a result, it is mathematically possible to calculate a proper response rate that takes into account all sources of nonresponse. Below are the components of this survey's response rate calculation and the actual calculations. An extended description of how to compute response metrics for online panels can be found in:

Mario Callegaro and Charles DiSogra, "Computing Response Metrics for Online Panels," *Public Opinion Quarterly* 72, no. 5 (2008): 1008–32.<sup>1</sup>

### Response Rate Summary Metrics

A. Number of Assigned Panelists	3,468
B. Study-Specific Average Panel Recruitment Rate (RECR)	11.4%
C. Study-Specific Average Household Profile Rate (PROR)	56.2%
D. Study-Specific Average Household Retention Rate (RETR)	31.9%
E. Number of Total Study Completes	2,048
F. Study Completion Rate (COMR)	59.1%
G. Number of Study Break-offs	135
H. Study Breakoff Rate (BOR)	6.2%
I. Cumulative Response Rate	3.8%

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<sup>1</sup> The full text of the paper is available on the "Public Opinion Quarterly Special Issues" web page: [http://www.oxfordjournals.org/our\\_journals/poq/special.html](http://www.oxfordjournals.org/our_journals/poq/special.html)

## Data Collection Field Period and Survey Length

The data were collected June 6 through July 2, 2019. A total of n = 2,588 surveys were completed, including 2,048 using KnowledgePanel and n = 540 Black respondents from off-panel, nonprobability sample (for a total of n = 722 Black respondents). The median length of the survey was 20 minutes.

## Sample Composition

	Weighted % <sup>2</sup>	Unweighted N
Total	100%	N = 2,588
Men	48%	1,112
Women	52%	1,476
18 to 34	28%	645
35 to 44	21%	436
45 to 54	16%	420
55 to 64	18%	534
65+	17%	553
White, Non-Hispanic	42%	913
Latino	35%	711
Black	5%	722
AAPI	15%	180
Less than HS graduate	15%	189
HS grad	21%	542
Some college, no degree	21%	677
Associate degree	10%	258
Bachelor's degree	20%	573
Master's degree	9%	257
Professional or doctorate degree	4%	92
<150% FPL	17%	929
150% to 399% FPL	38%	871
400%+ FPL	45%	788
Has not had loved one pass away in past two years	58%	1,297
Died from serious health problem	29%	889
Died from other	11%	355
Has serious illness	18%	588
Does not have serious illness	82%	2,000

<sup>2</sup> Some segments do not total 100% or n = 2,588 due to non-response or rounding.

## About KnowledgePanel

KnowledgePanel is the largest online panel in the U.S. that relies on probability-based sampling techniques for recruitment. The panel was first developed in 1999 by Knowledge Networks (since acquired by Ipsos). Panel members are randomly selected so that survey results can properly represent the U.S. population with a measurable level of accuracy, features that are not obtainable from nonprobability panels (for comparisons of results from probability versus nonprobability methods, see Yeager et al., 2011<sup>3</sup>).

KnowledgePanel's recruitment process was originally based exclusively on a national random digit dialing (RDD) sampling methodology. In 2009, in light of the growing proportion of cellphone-only households, Ipsos migrated to an ABS recruitment methodology via the U.S. Postal Service's Delivery Sequence File (DSF). ABS not only improves population coverage, but also provides a more effective means for recruiting hard-to-reach individuals, such as young adults and minorities. Households without Internet connection are provided with a web-enabled device and free Internet service.

After initially accepting the invitation to join the panel, participants are asked to complete a short demographic survey (the initial Core Profile Survey); answers to this survey allow efficient panel sampling and weighting for future surveys. Upon completing the Core Profile Survey, participants become active panel members. All panel members are provided privacy and confidentiality protections.

Once panel members are recruited and profiled by completing KnowledgePanel's Core Profile Survey, they become eligible for selection for client surveys. Typically, specific survey samples are based on the equal probability selection method (EPSEM) for general population surveys. Customized stratified random sampling based on profile data can also be implemented as required by the study design. Profile data can also be used when a survey calls for pre-screening — that is, members are drawn from a subsample of the panel, such as females, Republicans, grocery shoppers, etc. (This can reduce screening costs, particularly for rare subgroups.) In such cases, Ipsos works to ensure that all subsequent survey samples drawn that week are selected to result in a sample that remains representative of the panel distributions.

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<sup>3</sup> David S. Yeager et al., "Comparing the Accuracy of RDD Telephone Surveys and Internet Surveys Conducted with Probability and Non-Probability Samples," *Public Opinion Quarterly* 75, no. 4 (Winter 2011): 709–47, doi:10.1093/poq/nfr020.

## ABS Recruitment

To enhance the DSF-based sampling frame used for address selection, KnowledgePanel has various ancillary data appended to each household address, thus facilitating complex stratification plans.<sup>4</sup> Taking advantage of such refinements, quarterly samples are selected using a disproportionate stratified sampling methodology across four strata to address differential attrition rates:

1. Hispanic households with at least one 18- to 24-year-old
2. Remaining Hispanic households
3. Remaining households with at least one 18- to 24-year-old
4. All remaining households

The above strata (particularly including the “all remaining households” group) allow KnowledgePanel to obtain a general population sample while oversampling Hispanics and younger adults. Adults from sampled households are invited to join KnowledgePanel through a series of mailings, including an initial invitation letter, a reminder postcard, and a subsequent follow-up letter. Moreover, telephone refusal-conversion calls are made to nonresponding households for which a telephone number could be matched to a physical address. Invited households can join the panel by:

- Completing and mailing back a paper form in a postage-paid envelope
- Calling a toll-free hotline phone number maintained by Ipsos
- Going to a designated Ipsos website and completing the recruitment form online

## KnowledgePanel Latino Recruitment

In 2008, KnowledgePanel Latino was developed to provide researchers with the capability to conduct representative online surveys with U.S. Hispanics. With the advent of KnowledgePanel Latino, the first U.S. online panel representative of Hispanics was established to include those without Internet access and those who only speak Spanish. Members for KnowledgePanel Latino are recruited using a custom dual-frame RDD sampling methodology targeting telephone exchanges associated with census blocks that have a 65% or greater Latino population density (this density level covers just over 50% of the U.S. Hispanic population). Moreover, cellular numbers from rates centers — geographically defined areas used for phone number assignment and billing purposes — with high concentrations of Hispanics are also used to improve the representation of samples. Households are screened in Spanish to recruit only those homes where Spanish is spoken at least half the time. This sample supplements the Latino households (English and Spanish) that are recruited through the KnowledgePanel’s general ABS recruitment sample.

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<sup>4</sup> Mansour Fahimi and Dale Kulp, “Address-Based Sampling May Provide Alternatives for Surveys That Require Contacts with Representative Samples of Households,” *Quirk’s Marketing Research Review* (May 2009), <https://www.quirks.com/articles/address-based-sampling-may-provide-alternatives-for-surveys-that-require-contacts-with-representative-samples-of-households>.

## Household Member Recruitment

During the initial recruitment survey, all household members are enumerated. Following enumeration, attempts are made to recruit every household member who is at least 13 years old to participate in KnowledgePanel surveys. For household members age 13 to 17, consent is collected from the parents or the legal guardian during the initial recruitment interview. No direct communication with teenagers is attempted before obtaining parental consent. While surveys can be conducted with these teens directly, in most instances teen surveys are conducted by first selecting a sample of active members who are parents. This parent route alternative makes it possible to reach a larger sample of teens.

## Survey Administration

Once assigned to a survey, members receive a notification email letting them know there is a new survey available for them to complete. All non-Internet household members are required to have an email address and are provided with a tablet. Members who do not already have an email address during recruitment are provided with one. The email notification contains a link that sends them to the survey. No login name or password is required. The field period depends on the client's needs and can range anywhere from a few hours to several weeks.

After three days, automatic email reminders are sent to all nonresponding panel members in the sample. Additional email reminders are sent as needed. To assist panel members with their survey taking, each individual has a personalized member portal that lists all assigned surveys that have yet to be completed.

Ipsos also operates an ongoing modest incentive program to encourage participation and create member loyalty. The incentive program includes special raffles and sweepstakes with both cash rewards and other prizes to be won. Typically, Ipsos assigns panel members no more than one survey per week. On average, panel members complete two to three surveys per month with durations of 10 to 15 minutes per survey. An additional incentive is usually provided for longer surveys.

## Response Rates

As a member of the American Association of Public Opinion Research (AAPOR), Ipsos follows the AAPOR standards for response rate reporting. While the AAPOR standards were established for single survey administrations and not for multi-stage panel surveys, Ipsos uses the Callegaro-DiSogra (2008)<sup>5</sup> algorithms for calculating KnowledgePanel survey response rates. Generally, the KnowledgePanel survey completion rate is about 60%, with minor variations due to survey length, topic, sample specifications, and other fielding characteristics. In contrast, virtually all surveys that

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<sup>5</sup> Mario Callegaro and Charles DiSogra, "Computing Response Metrics for Online Panels," *Public Opinion Quarterly* 72, no. 5 (December 2008): 1008–32, doi:10.1093/poq/nfn065.

employ nonprobability online panels typically achieve survey completion rates in the low single digits. This means that — aside from the fact that nonprobability panels are inherently not representative of any known populations — the effective size of KnowledgePanel (55,000 panel members  $\times$  0.60 completion rate = 33,000 respondents) would be equivalent to a nonprobability panel with 1,650,000 members that on average secures completion rates close to 2% (1,650,000 panel members  $\times$  0.02 = 33,000 respondents).

## Sample Weighting

As detailed above, significant resources and infrastructure are devoted to the recruitment process for KnowledgePanel so that active panel members can properly represent the adult population of the U.S. This representation is achieved not only with respect to a broad set of geodemographic indicators, but also for hard-to-reach adults (such as those without Internet access or Spanish-language-dominant Hispanics) who are recruited in proper proportions. Consequently, the raw distribution of KnowledgePanel mirrors that of U.S. adults fairly closely, barring occasional disparities that may emerge for certain subgroups due to differential attrition.

For selection of general population samples from KnowledgePanel, a patented methodology has been developed that ensures all samples behave as equal probability selection method (EPSEM) samples. This methodology starts by weighting the pool of active members to the geodemographic benchmarks secured from the latest (March 2019) supplement of the U.S. Census Bureau's Current Population Survey (CPS) along several dimensions. Using the resulting weights as measures of size, a probability-proportional-to-size (PPS) procedure is used to select study-specific samples. It is the application of this PPS methodology with the imposed size measures that produces fully self-weighting samples from KnowledgePanel, for which each sample member can carry a design weight of unity. Moreover, in instances where a study design requires any form of oversampling of certain subgroups, such departures from an EPSEM design are accounted for by adjusting the design weights in reference to the CPS benchmarks for the population of interest.

The geodemographic benchmarks used to weight the active panel members for computation of size measures include:

- Gender (Male/Female)
- Age (18–29, 30–44, 45–59, and 60+)
- Race/Hispanic ethnicity (White/Non-Hispanic, Black/Non-Hispanic, Other/Non-Hispanic, 2+ Races/Non-Hispanic, Hispanic)
- Education (Less than High School, High School, Some College, Bachelor and Beyond)
- Census Region (Northeast, Midwest, South, West)



- Household income (under \$10K, \$10K to <\$25k, \$25K to <\$50k, \$50K to <\$75k, \$75K to <\$100K, \$100K to <\$150K, and \$150K+)
- Home ownership status (Own, Rent/Other)
- Metropolitan Area (Yes, No)

Please direct inquiries about the survey methodology to: [team@perryundem.com](mailto:team@perryundem.com).