METHODOLOGY REPORT:

FDA SUPPLEMENT SURVEY

Prepared for The Pew Charitable Trusts

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OVERVIEW

The Pew Charitable Trusts ("Pew") commissioned SSRS to conduct the 2019 Perception of Dietary Supplements and the US Food and Drug Administration ("FDA Supplement") Quantitative Study. The FDA Supplement survey was conducted online via the SSRS Probability Panel and invited adults age 18 and older to participate via the web. It included 1,000 participants and data collection was conducted from May 17 to May 29, 2019. Qualitative research in the form of focus groups was conducted in the winter of 2018 and used to inform the quantitative research discussed in this report.

This report provides information about the sampling procedures and the methods used to collect, process, and weight data for the 2019 FDA Supplement survey.

SSRS PROFILE

SSRS is a full-service survey and market research firm managed by a core of dedicated professionals with advanced degrees in the social sciences. SSRS designs and implements research solutions for complex strategic, tactical, public opinion, and policy issues in the U.S. and in more than 40 countries worldwide. The SSRS team specializes in creative problem-solving and informed analysis to meet its clients' research goals. SSRS provides the complete set of analytical, administrative and management capabilities needed for successful project execution. We partner with clients interested in conducting high-quality research. In the industry, SSRS is renowned for its sophisticated sample designs and its experience with all facets of data collection, including those involving multimodal formats. SSRS also has extensive statistical and analytical capabilities for extracting important insights from the survey data and suggesting strategies based on those insights.

QUESTIONNAIRE DESIGN

The instrument was designed collaboratively by the Pew and SSRS teams. Specifically, SSRS provided input on questionnaire design and feedback regarding question wording, order, clarity, and other issues pertaining to questionnaire quality. Together, SSRS and the Pew team worked to finalize the questionnaire.

Upon final approval, SSRS formatted and programmed the survey for completion online. Additional steps were employed to ensure a high-quality experience in survey administration regardless of the device utilized by respondents, whether a desktop computer, tablet or phone (i.e., mobile optimized).

A cognitive pretest of the instrument was conducted with six respondents who were recruited via the SSRS Probability Panel. Based on the cognitive pretest findings, a few modifications were made to the survey prior to launch.

SAMPLE DESIGN: THE SSRS PROBABILITY PANEL

The SSRS Probability Panel is a nationally representative probability-based web panel. Given that this is a probability-based web panel, findings are statistically projectable to the adult general population with Internet access. SSRS Probability Panel members are recruited randomly from a dual-frame random digit dial (RDD) sample, through the SSRS Omnibus survey platform. The SSRS Omnibus survey is a nationally

representative bilingual telephone survey designed to meet standards of quality associated with custom research studies. Each weekly wave of the SSRS Omnibus consists of 1,000 interviews, of which 700[1] are obtained with respondents on their cell phones, and approximately 35 interviews completed in Spanish.

Respondents of the SSRS Omnibus represent the full U.S. adult population (English- and Spanish-speaking). From this base, SSRS screens for Internet access and then recruits those who have Internet access[2] to be part of the SSRS Probability Panel.

DATA COLLECTION

Survey Sampling

All sample members drawn for the FDA Supplement survey were US adults 18 years of age and older. Sample drawn for this survey was pulled disproportionately by education due to greater non-response by panelists who have attained lower levels of education.

Survey Administration Procedures

Surveys conducted using the SSRS Probability Panel are self-administered web surveys. In appreciation for their participation, panelists receive a modest incentive for participation (in the form of an electronic gift card). Depending on the field period, reminder emails are sent to panelists who do not complete the survey after being sent the initial invitation.

For the FDA supplement study, the survey administration schedule was as follows:

Touchpoint	Date
Soft launch invitation	5/13/2019
Full launch invitation	5/17/2019
Field Close	5/29/2019

A "soft launch" inviting a limited number of panelists to participate was conducted on May 13. After checking soft launch data to ensure that all questionnaire content and skip patterns were correct, additional sample was released to ensure the final sample was representative.

The median length of the FDA Supplement survey was approximately 12 minutes.

Panelists were emailed an invitation to complete the FDA Supplement survey online. The email for each respondent included a unique passcode-embedded link. In appreciation for their participation, panelists received a five-dollar incentive (in the form of an electronic gift card). Panelists not responding to their first

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[1] In June 2019 the OMNI distributions changed from N=600 to N=700 cell phone completes. For the population used in this survey, the distribution of OMNI completes would have been N=600 cell phone.
[2] According to a Pew Research Center report, approximately 89% of adults nationally have internet access: http://www.pewinternet.org/fact-sheet/internet-broadband/

invitation received a reminder email one week after the initial invitation, on May 24. No additional reminders were sent.

As standard practice on web surveys, respondents were allowed to skip any question they did not wish to answer; however, high rates of non-response can be correlated with poor data quality. Notably, 96% of respondents answered 95% or more of the survey questions they were asked, with no one completing less than 84% of the entire questionnaire.

N Sampled for Survey	N Completed Survey	Final N After Quality Control Removals[3]
1,646	1,001	1,000

The final breakdown based on device used to complete the survey was as follows:

Device	N Completed Survey
Desktop computer	475
Smartphone or other small device	525

RESPONSE RATE/COOPERATION RATE

Response rates are one method used to assess the quality of a survey, as they provide a measure of how successfully the survey obtained responses from the sample. The American Association of Public Opinion Research (AAPOR) has established standardized methods for calculating response rates (AAPOR, 2008). As noted previously, SSRS Panel members are recruited randomly from SSRS Omnibus. The Response Rate for SSRS Omnibus is typically 5%[4]. As noted above, of the Omnibus respondents who are invited to join the SSRS Probability Panel, approximately 21% agree to become part of the panel[5]. Typical cooperation (i.e., completion) rates obtained by the SSRS Probability Panel range from 50% to 60%. The FDA Supplement survey completion rate is 60.8%.

DATA PROCESSING AND INTEGRATION

SSRS implemented several quality assurance procedures in data file preparation and processing. In addition to extensive testing of the web survey prior to the launching data collection, after the soft launch, survey data were carefully checked for accuracy, completeness, and non-response to specific questions so that any issues could be identified and resolved prior to the full launch.

The data file programmer implemented a "data cleaning" procedure in which web survey skip patterns were created in order to ensure that all questions had the appropriate numbers of cases. This procedure involved a check of raw data by a program that consisted of instructions derived from the skip patterns designated

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[3] The N=1 case was removed due to speeding, skipping a large number of questions, and straightlining.
[4] This is our average response rate currently (in 2019). The majority of the panel was recruited when response rates were higher (roughly 7-8%).
[5] This is the current panel agreement (in 2019). The majority of the panel was recruited when the agreement rate was higher, typically around 45%.

on the questionnaire. The program confirmed that data were consistent with the definitions of codes and ranges and matched the appropriate bases of all questions.

WEIGHTING

This study, using sample selected from the SSRS Opinion Panel, was weighted to provide nationally representative and projectable estimates of the US adult population 18 years of age and older. The weighting process takes into account the recruitment of panelists through the SSRS Telephone Omnibus. In addition, a non-Internet propensity adjustment was applied to help model non-Internet households that are excluded from an online panel. Following application of these weighting adjustments, the sample was raked by key demographics.

Base Weight

The weighting begins with the application of the original Omnibus base weight (OBW) computed at the time of panel recruitment. This base weight follows standard procedures for computing base weights of overlapping dual-frame telephone surveys.

$$OBW = [PLL + PCP - (PLL \times PCP)]^{-1}$$

Where PLL is the probability that the respondent was sampled from the original landline frame and PCP is the probability that the respondent was sampled from the original cell frame. The sampling probabilities are a function of sample size, frame size, household composition and telephone use.

In addition to the base weight, a non-Internet Adjustment (NIA) was made to the data. For this adjustment, SSRS applies a propensity score to model non-Internet households so that estimates can be projectable to the full US adult population and not just Internet users. Propensity scores were estimated by fitting a regression of the panel response status on a range of demographic and attitudinal covariates. Adjustments for each panel participant are then calculated as the reciprocal of the estimated response propensity found from the model.

The final base weight is the product of the Omnibus base weight and the non-Internet adjustment.

$$BW = OBW \times NIA$$

Raking

The final stage of weighting involved raking sample demographics to target population benchmarks. The data were weighted to marginal distributions of: sex, age, education, race/ethnicity, region, civic engagement, and party identification. The sex, age, education, race/ethnicity and region benchmarks were derived from 2018 Current Population Survey[6] data. The civic engagement benchmarks were derived from

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[6] Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 6.0 [dataset]. Minneapolis, MN: IPUMS, 2018. https://doi.org/10.18128/D030.V6.0

September 2017 Current Population Survey (CPS) data.[7] Weights were trimmed at the 2nd and 98th percentiles to prevent individual interviews from having too much influence on the final results.

Sample Demographics Summary

		Benchmark	Unweighted	Weighted
Gender	Male	48.4%	50.3%	48.4%
	Female	51.6%	49.7%	51.6%
Age	18-29	21.1%	16.3%	21.0%
	30-49	33.4%	33.3%	33.1%
	50-64	25.1%	29.7%	25.3%
	65+	20.5%	20.7%	20.6%
Education	HS Grad or less	39.5%	23.9%	38.7%
	Some College	28.2%	28.7%	28.5%
	College Graduate or more	32.3%	47.4%	32.7%
Race/ Ethnicity	White/not Hispanic	63.5%	72.1%	63.7%
	Black/not Hispanic	11.9%	8.1%	11.5%
	Hispanic	16.2%	12.4%	16.3%
	Other/not Hispanic	8.4%	7.4%	8.5%
Region	Northeast	17.8%	18.9%	18.0%
	Midwest	20.8%	22.3%	20.4%
	South	37.7%	36.4%	37.7%
	West	23.7%	22.4%	23.9%
Civic Engagement	No	79.3%	39.7%	78.9%
	Yes	20.7%	60.3%	21.1%

Effects of Sample Design on Statistical Analysis

Specialized sampling designs and post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. SSRS calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from a complex sample design and systematic non-response. SSRS calculates the composite design effect for a sample of size n, with each case having a weight, w, as:

$$deff = \frac{n \sum w^2}{(\sum w)^2}$$

The design effect for this survey was 2.20 overall.

The survey's margin of error is the largest 95% confidence interval for any estimated proportion based on the total sample—one around 50%. For example, the margin of error for the total sample is ±4.6 percentage points. This means that in 95 out every 100 samples using the same methodology, estimated proportions

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[7] Civic Engagement was defined by respondents' involvement in volunteering and talking with neighbors daily.

based on the entire sample will be no more than 4.6 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as measurement error, may contribute additional error of greater or lesser magnitude.