June 6, 2022

Brian C. Moyer, PhD
Director
National Center for Health Statistics
Centers for Disease Control and Prevention
Department of Health and Human Services
3311 Toledo Road
Hyattsville, Maryland 20782

Re: Recommendations on Use of Panel Survey Data by NCHS

Dear Dr. Moyer:

This letter conveys recommendations to the National Center for Health Statistics (NCHS) from the Board of Scientific Counselors (BSC). In fulfilling its charge, the BSC provides advice and guidance on statistical and epidemiological research and activities on various health issues and makes recommendations regarding the scientific and technical program goals, strategies, and priorities of the Center.

Through your leadership, NCHS successfully employed the Research and Development Survey (RANDS) to collect and disseminate timely data on telehealth, access to health care, and work loss due to COVID-19 more quickly than would have been possible from NCHS's ongoing household population surveys. To build on this success, you requested information that would support building on the success of the RANDS to collect and disseminate data from panel surveys regularly.

As a result, in June 2021 the Board was charged with assessing the use of panel surveys for producing timely national estimates by NCHS for emerging or supplemental topics by:

1) identifying conditions under which it would recommend use of online panel surveys for emerging or supplemental topics where "gold-standard" survey data may or may not be available; and
2) identifying additional research and evaluation needed to increase confidence in the fitness-for-use of estimates from online panel surveys for these purposes.

The Board tasked its Population Health Survey Planning Methodology and Data Presentation (PHSPMDP) Workgroup, chaired by BSC member Andy Peytchev, PhD, with researching these questions and coming back to the Board with its findings. After its April 12, 2022, meeting, the Workgroup completed its Findings Report, which the Board unanimously approved at its

May 26, 2022, meeting. During the same meeting, the Board subsequently approved a motion, also unanimously, to submit the findings laid out in the report as recommendations to NCHS from the Board. This letter presents these two sets of recommendations.

As outlined in the enclosed Findings Report, the Board is submitting recommendations on the use of panel surveys for producing timely national estimates by NCHS for:

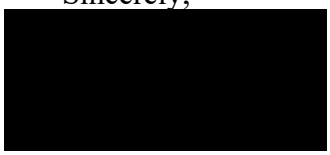
- Five conditions under which the use of probability-based online panels can be recommended for NCHS; and
- Six areas where additional research and evaluation are warranted.

Specifics on the recommended five conditions and six areas of additional research, including parameters and assumptions that underly the recommendations, are detailed in the Findings Report.

Thank you for considering the Board's recommendations. The Board urges NCHS to move forward with this work to build greater data collection capacity to inform a rapidly evolving environment that increasingly necessitates methodologic and technology changes.

The Board is available to answer questions and will continue to support NCHS' efforts to advance innovative approaches for monitoring and evaluating important public health and health policy questions of national interest.

Sincerely,



John R. Lumpkin, MD, MPH
Chair, Board of Scientific Counselors
National Center for Health Statistics

Enclosure: Findings Report: Assessment of the Use of Panel Survey Data by NCHS Population Health Survey Planning Methodology and Data Presentation (PHSPMDP) Workgroup to the BSC, April 26, 2022

Assessment of the Use of Panel Survey Data by NCHS

National Center for Health Statistics (NCHS)

Board of Scientific Counselors (BSC)

Population Health Survey Planning Methodology and Data Presentation (PHSPMDP) Workgroup

Workgroup Findings

April 26, 2022

Executive Secretary/Designated Federal Officer for the BCS NCHS
Rebecca Hines, MHS

BSC NCHS PHSPMDP Workgroup Members
Andy Peytchev, PhD, Workgroup Chair, RTI International
Mollyann Brodie, PhD, Kaiser Family Foundation
Kennon Copeland, PhD, NORC, University of Chicago
Scott Holan, PhD, University of Missouri

NCHS Members
Jennifer Parker, PhD, Director, Division of Research and Methodology
Stephen Blumberg, PhD, Director, Division of Health Interview Statistics
Jonaki Bose, MS, Mathematical Statistician

Invited Subject Matter Experts
Andrew Mercer, PhD, Senior Research Methodologist, Pew Research Center
Jenny Marlar, PhD, Director, Survey Research, GALLUP
Michael Dennis, PhD, Executive Director, AmeriSpeak, NORC
Frances Barlas, PhD, Senior Vice President, Research Methods, Ipsos Public Affairs
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Jennifer Hunter Childs, Assistant Center Chief, Emerging Methods and Applications, Center for Behavioral Science Methods, U.S. Census Bureau

Background

The Research and Development Survey (RANDS) has been used as a methodological platform for survey question evaluation and for statistical research at the National Center for Health Statistics (NCHS). During the pandemic, the RANDS program was also used to collect and disseminate timely data on telehealth, access to health care, and work loss due to COVID-19 more quickly than content from our core legacy surveys. RANDS during COVID-19 was calibrated to the National Health Interview Survey (NHIS) on various demographic and health characteristics. As the release of these estimates was a departure from usual NCHS disseminations, estimates from RANDS during COVID-19 were labeled as experimental and accompanied by documentation describing the methodologies used and their limitations.

NCHS would like to build on the success of the RANDS during COVID-19 and collect and disseminate data from panel surveys regularly. The purpose of this BSC workgroup is to provide assessment on the use of panel surveys by NCHS for producing timely national estimates by key demographic subgroups for new, emerging or supplemental topics (that is, topics not currently included on other NCHS surveys) using statistical methods for calibration of panel survey data to NCHS's "gold-standard" surveys. The Division of Health Interview Statistics (DHIS) has found that the choice of covariates for calibration and modeling is an important factor for improving alignment of estimates to those from the NHIS. An advantage of NCHS controlling data collection for both the panel survey and the "gold-standard" survey is the ability to coordinate the survey content to improve estimates.

Charge to the Workgroup

NCHS has two primary questions for the workgroup:

1. Given the current scientific knowledge, under what conditions would you recommend the use of online panel surveys for emerging or supplemental topics where "gold-standard" survey data may or may not be available?
2. What additional research and evaluation is recommended, if any, to increase your confidence in the fitness-for-use of estimates from online panel surveys for these purposes?

In addition, NCHS provides several possible directions for the workgroup. These include:

- Supplementing online panel data with other modes
- Supplementing one online panel with other online panels
- Fielding new questions on gold-standard surveys to provide better calibration measures
- Improvements in statistical approaches to developing weights
- Communication of data quality for these relative to core survey data

Finally, the workgroup clarified additional parameters to increase the relevance to NCHS of the workgroup's findings:

- External panels will be used, that is, the panels are not created by NCHS
- Survey content will focus on emerging and supplemental topics, rather than content already captured by existing NCHS programs
- NCHS will retain control over survey content and collected data
- Data will be disseminated through an NCHS Experimental Estimates program

Information Gathering

Information was solicited from private sector researchers and Federal partners who are actively engaged in developing, managing, and using data from probability-based panels. The workgroup developed a list of questions of interest and invited the experts, listed under "invited subject matter experts" above, in a series of three virtual meetings between January and March 2022. Each invited expert was given an opportunity for a brief presentation, and the presentations were followed by a discussion with the BSC and NCHS workgroup members. The represented panels included the American Trends Panel, The Gallup Panel, the AmeriSpeak Panel, the KnowledgePanel, the SSRS Opinion Panel, the AskUS panel, and one repeated cross-sectional web survey that shares many of the same strengths and limitations—the Household Pulse Survey.

Findings

The main findings are grouped by the two questions posed by NCHS.

Conditions under which the use of probability-based online panels can be recommended for NCHS.

Timely cross-sectional estimates. Online panels should be avoided for estimates that can be produced by NCHS's current cross-sectional household surveys. The estimates from online panels are going to be subjected to greater risk of bias. An added risk to NCHS is the production of alternative and discrepant estimates. Instead, online panels are particularly desirable for timely estimates for new, emerging, or supplemental topics.

Estimates of trends. Probability-based online panels are well-suited for generating estimates of change over time. This does not require following the same sample members over time as in a longitudinal panel, although such a feature may be desirable in some cases. However, there is a need for panel designs that are stable over time. The panel providers discussed having explicit rules for retiring sample members and refreshing their panels. Attention is need to these procedures when considering estimates of trends.

Avoid estimates related to the data collection methods or to willingness to participate. Some of the largest discrepancies between probability-based online panels and benchmark estimates have been found for estimates related to how the data are collected (e.g., technology use and internet use) and civic duty and engagement (e.g., volunteering and voting). The former has to

do with access. The latter stems from the significant expectations imposed on sample members—to agree to join a panel and to successively complete surveys.

Avoid some subgroup/subdomain estimates. Estimates for some subgroups can be particularly susceptible to bias in online panels. For example, African Americans included in online panels can be a subset who are more affluent or more geographically stable than African Americans in the general population. Hispanic members of panels are likely a subset who are more acculturated, assimilated, and more English dominant than Hispanics not on panels. Concerns about whether young adults on panels are good representatives of all young adults, particularly those with lower SES or young adults of color also exist. If estimates of these sorts of subgroups will be produced, the design of the panel needs to ensure that it is "representative" not just demographically, but within the groups of interest. In statistical terms, that both overall and subgroup estimates are unbiased.

Pilot estimates prior to implementation on large-scale household studies. Probability-based online panels can provide information on the performance of new or altered survey questions while retaining inference to the general population, to inform decisions about new content or changes to the household population surveys.

Additional research and evaluation that can be recommended to NCHS.

Research on augmenting a panel with other samples or administrative data to address undercoverage and nonresponse. Overrepresentation of more affluent individuals among people of color, for example, can be addressed through sample augmentation. Evaluation of methods to do that would depend on the subgroups and estimates of interest. The methods could include other modes such as telephone, and sample sources, such as cell phone numbers flagged as pre-paid or pay-as-you-go telephone numbers (also known as non-contract phone numbers) which are known to be used at a disproportionate rate by lower income individuals, immigrants, and young adults of color.

This suggestion is for augmentation of the online panel for a particular purpose using probability-based methods. It does not extend to augmentation using nonprobability-based samples that depart from probability-based inference.

Conduct an evaluation study. There are numerous questions that will need to be addressed, to better inform the suitability of an online panel for particular types of estimates, the limitations of the panel approach, any needed changes to the design, and any improvements to the weighting and estimation. Such an approach can include the design a short omnibus survey with NCHS-relevant measures and conducting a multi-panel study with additional cross-sectional study arms for comparison. Combined with the prior suggestion on sample augmentation, there can be four distinct components that will allow the evaluation of the online panel approach, comparison of variability of estimates across online panels, testing improvements for subdomain estimates with sample augmentation, and comparison to other, more rigorous cross-sectional survey designs that are not subject to the same limitations:

- Several probability-based online panels
- A panel+ (augmented panel, e.g., with identified prepaid cell phone numbers)
- Address-Based Sample (ABS) web and/or mail
- High response rate survey (e.g., NHIS) for some measures

Evaluate different adjustment methods. The relatively high burden on panel respondents and the multiple opportunities for nonresponse at different stages of the study design and life of the panel call for augmented postsurvey weighting adjustments. One promising avenue is to consider non-sociodemographic variables with estimates that are stable over time (e.g., ever diagnosed with cancer). There are at least three sets of variables to be explored: technology and internet use; civic duty and civic participation; and health related which could consider health insurance status and health care access measures as well. The first two sets are known correlates of participation in online panels. The third is to reduce the risk of nonresponse bias particularly in the kinds of substantive estimates that could be of interest to NCHS.

Evaluations of alternative weighting can be limited by the limited information available for evaluation. These analyses would also benefit from a designed evaluation study in which the same instrument could be used in a parallel cross-sectional design (ABS web/mail) and some online panel estimates to overlap with those in household population surveys (e.g., NHIS).

Design auxiliary variables to embed in other survey vehicles or admin data. Additional measures can be designed with the intention to aid weighting adjustments for a probability-based online panel, rather than rely only on measures that are currently available. Such designed auxiliary information could also afford cross-classification of multiple auxiliary measures. As a simplified example, if NCHS is interested in tracking attitudes towards mask mandates, including COVID vaccination questions would be important for weighting.

Periodic evaluation. Sampling frames, recruitment methods, sample retention rules and methods, availability of auxiliary data, statistical adjustment methods, and other aspects of online panel methodology evolve and change over time. Similarly, societal changes affect what technologies are used, who participates, and how. Periodic evaluation, including benchmarking to other sources, would be beneficial.

Communication of data quality for web panel data relative to core survey data. Beyond labeling the estimates as some form of "experimental," this is a broad topic that was not discussed by the workgroup and could be narrowed when a specific design is selected.