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**Department of Health and Human Services (HHS)**

**Board of Scientific Counselors  
National Center for Health Statistics  
Centers for Disease Control and Prevention  
October 22, 2021**

**Meeting Summary**

The Board of Scientific Counselors (BSC) convened via Zoom on October 22, 2021. The virtual meeting was open to the public (via Zoom).

**Board Members Present**

Linette T. Scott, M.D., M.P.H., Chair, BSC  
Kennon R. Copeland, Ph.D.  
Scott H. Holan, Ph.D.  
Helen G. Levy, Ph.D.  
John R. Lumpkin, M.D., M.P.H.  
Bradley A. Malin, Ph.D.  
Sally C. Morton, Ph.D.  
Lucila Ohno-Machado, M.D., Ph.D.  
Kristen M. Olson, Ph.D.  
Andrey Peytchev, Ph.D.  
C. Matthew Snipp, Ph.D.

**CDC/NCHS Panelists**

Brian Moyer, Ph.D., Director, National Center for Health Statistics (NCHS)  
Rebecca Hines, M.H.S., Designated Federal Officer, NCHS, BSC  
Irma Arispe  
Stephen Blumberg  
Amy Branum  
Kennon Copeland  
James Craver  
Carol DeFrances  
Adena Galinsky  
Jessica Graber  
Scott Holan  
Helen Levy  
John Lumpkin  
Bradley Malin  
Kiana Morris  
Sally Morton  
Brian Moyer  
Gwen Mustaf  
Lucila Ohno-Machado  
Dagny Olivares

Kristen Olson  
Jennifer Parker  
Ryne Paulose  
Andy Peytchev  
Matthew Snipp  
Paul Sutton

**Other Attendees**

Farida Ahmad  
Hallie Andrews  
Yutaka Aoki  
Bryan Bassig  
Kate Brett  
Mollyann Brodie  
Verita Buie  
Jay Clark  
Traci Cook  
Mary Frances Cotch  
Anterio Cunningham  
Barnali Das  
Tara Das  
Steven Fink  
Diana Fisher  
Sheila Franco  
Chris Freedman  
Cheryl Fryar  
Matthew Garnett  
Renee Gindi  
Heidi Guyer  
Nancy Han  
Kuki Hansen  
Elizabeth Heitz  
Kevin Heslin  
Beth Hintz  
Howard Hoffman  
Jacquie Hogan  
Travis Hoppe  
Isabelle Horon  
Stan Hsieh  
Rebecca Hu

David Huang  
Kate Hubbard  
Ed Hunter  
Katherine Irimata  
Richard Klein  
Karen Knight  
Ellen Kramarow  
Peter Kyriacopoulos  
Denys Lau  
Florence Lee  
Jacqueline Lucas  
Crescent Martin  
Michael Martinez  
Juliana McAllister  
Grace Medley  
Prachi Mehta  
Donna Miller  
Lisa Mirel  
Leyla Mohadjer  
Mary Moien  
Jeri Mulrow  
Tina Norris  
Jim Nowicki  
Tatiana Nwnakwo  
Damon Ogburn  
Susan Paddock  
Van Parsons  
Sue Pedrazzani  
Stephen Pierson  
John Pleis  
Paul Pulliam  
Nigelle Ratsick

Lauren Rossen  
Asel Ryskulova  
Neda Sarafrazi  
Steven Schwartz  
Anna Scrimenti  
Bobbie Shimizu  
Bob Sivinski  
Sandra Smith  
Pamela Stephenson  
Renee Storandt  
Matthew Strobl  
Makram Talih  
Chally Tate  
Kelly Thompson  
Stephanie Tiller  
Alexander Tin  
Allan Uribe  
Anjel Vahratian  
Maria Villarroel  
Meagan Walters  
Brian Ward  
Nicholas Warren  
Julie Weeks  
David Williams  
Jean Williams  
Kevin Wilson  
Ashley Woodall  
Evangeline Woody  
Alana Yick  
Keith Zevallos

Jennifer Parker

Presentation Tech      Mike Kavounis (RLA)  
Minutes                      Jay Weixelbaum (RLA)

**List of Abbreviations**

API                      application programming interface  
BSC                      Board of Scientific Counselors  
CCQDER                Collaborative Center for Questionnaire Design Evaluation and Research  
CDC                      Centers for Disease Control and Prevention

CMS	Centers for Medicare & Medicaid Service
COVID-19	coronavirus disease 2019
DAE	Division of Analysis and Epidemiology
DMI	Data Modernization Initiative
EHR	electronic health records
FHIR	Fast Healthcare Interoperability Resources
FY	fiscal year
HHS	Health and Human Services
NAMCS	National Ambulatory Medical Care Survey
MEC	Mobile Examination Center
NCHS	National Center for Health Statistics
NHANES	National Health and Nutrition Examination Survey
NHCS	National Hospital Care Survey
NHIS	National Health Interview Survey
NHSR	National Health Statistics Reports
NPALS	National Post-Acute and Long-term Care Study
NVSS	National Vital Statistics System
PCORTF	Patient-Centered Outcomes Research Trust Fund
SDOH	social determinants of health
VA	Department of Veterans Affairs
VDE	Virtual Data Enclave

### **Action Steps**

- The BSC voted unanimously to approve the PHSPMDP WG’s plan to continue its project to assess the Use of Panel Survey Data by NCHS, present an update at the first meeting in early 2022, and also provide a report then or at the second BSC meeting in 2022.
- Mr. Craver will facilitate follow-up discussion with Dr. Holan on the attributes and advantages of VDE compared to currently existing systems.
- Dr. Holan offered to share a paper that may inform development of measures in the new Census feasibility study on modeled estimates.

### **Presenters**

Brian Moyer, Ph.D., Director, NCHS  
Jim Craver, M.A.A., Acting Deputy Director for Management and Operations, NCHS  
Paul Sutton, Ph.D., Deputy Director, Division of Vital Statistics, NCHS  
Kiana C. Morris, M.B.A., C.M.C.P., Acting Director, Office of Planning, Budget and Legislation, NCHS  
Amy Branum, Ph.D., Associate Director for Science, NCHS  
Stephen Blumberg, Ph.D., Director, Division of Health Interview Statistics  
Benjamin Zablotsky, Ph.D., Division of Health Interview Statistics  
Adena Galinsky, Ph.D., Division of Health Interview Statistics  
Jennifer Parker, Ph.D., Director, Division of Research and Methodology  
Andy Peytchev, Ph.D., BSC Member and Chair, Population Health Survey Planning, Methodology and Data Presentation (PHSPMDP) Workgroup  
Ryne Paulose, Ph.D., Acting Director, Division of Health and Nutrition Examination Statistics  
Carol DeFrances, Ph.D., Acting Director, Division of Health Care Statistics  
Irma Arispe, Ph.D., Director, Division of Analysis and Epidemiology

Dagny Olivares, M.P.A., Associate Director for Communication, NCHS

### **Welcome and Call to Order**

Linette T. Scott, M.D., M.P.H., Chair, BSC

Rebecca Hines, M.H.S., Designated Federal Officer, BSC, NCHS

Ms. Hines conducted roll call, asking members to introduce themselves and state conflicts of interest. None of the BSC members stated a conflict of interest.

Dr. Scott welcomed new BSC members.

### **NCHS Director's Update**

Brian Moyer, Ph.D., Director, NCHS

#### ***Departing BSC Members and New Members***

Dr. Moyer welcomed Board members, noting the presence of newly appointed members in attendance as members of the public while final onboarding activities are pending. He thanked Dr. Scott for continuing to serve as Chair for a final meeting pending confirmation of the new Chair.

#### ***Recent Data Releases on COVID-19***

NCHS has been focused on generating large volumes of COVID-19 information quickly, and several presentations focus on those efforts. NCHS is accomplishing this task in addition to its core tasks and with many staff deployed formally to other agencies to assist with their pandemic response. Dr. Moyer thanked the staff for their work on advancing those efforts.

#### ***Focus on Social Determinants of Health***

NCHS has placed a high priority on addressing social determinants of health. This initiative aims to expand data sources and use techniques to better understand and measure SDOH by, for example, expanding and updating surveys, conducting new and updated data linkages, and integrating SDOH data into Department of Health and Human Services (HHS) evidence-based decision making.

#### ***New Report on America's Children***

NCHS published a report in September 2021 that updates well-being indicators including health and education. Highlights include a decrease in percentage of children living with housing problems and an increase in depressive episodes among youth ages 12-17.

#### ***National Center for Epidemic Forecasting and Outbreak***

The Centers for Disease Control and Prevention (CDC) is launching a new national outbreak forecasting center, which is funded by the American Rescue Plan. The center will serve three broad initiatives: (1) predict and forecast future health threats and identify response actions; (2) inform key decision makers by translating and communicating forecasts; and (3) innovate through investment in and partnerships with researchers in the public and private sectors. This center will become active in 2022, and NCHS anticipates a significant role in its work, through both its data assets and expertise.

#### ***Advisory Committee on Data for Evidence Building***

Founded as part of the Foundations for Evidence-based Policymaking Act of 2018, this Committee is charged with advising the Office of Management and Budget (OMB) on data sharing, linkage, and protection. The Committee met for the first time in October 2020 and is slated to sunset in October 2022. The Committee will release a report on its recommendations next year.

### ***Federal Committee on Statistical Methodology***

This Committee has released two new documents, a Framework for Data Quality and a Data Protection Toolkit. The Framework identifies threats to data quality and previously unaddressed challenges involving confidentiality in the use of “Big Data.” The Toolkit provides best practices for privacy protection across data types. NCHS worked with the Committee to create these documents and helped facilitate outreach on the activities of statistical agencies.

### ***NCHS Budget Update***

Dr. Moyer noted that the NCHS budget currently operates under a continuing resolution, and he is monitoring the budget process to identify potential impacts on resources. The proposed fiscal year (FY) 2022 budget (\$175 million) is unchanged from FY 2021. Over the past year, NCHS has received funding for core data modernization and for supplemental data monitoring via the CARES Act.

### ***Discussion/Reaction by the Board***

In response to a question from a BSC member, Dr. Moyer explained that it is not yet clear how the National Center for Epidemic Forecasting and Outbreak’s work will align with other CDC surveillance efforts during the pandemic and what data it plans to acquire and disseminate, because the Center is still being established. However, the Center will employ all datasets generated across CDC (as well as state and local data) for predictive efforts. NCHS clearly has a role to play with its available datasets and expertise.

### **Data Modernization Initiative (DMI) Updates**

Jim Craver, M.A.A., Acting Deputy Director for Management and Operations, NCHS  
Paul Sutton, Ph.D., Deputy Director, Division of Vital Statistics, NCHS

### ***Updates on the DMI***

Mr. Craver described the DMI as a national effort to create modern, integrated, and real-time public health surveillance. The goal of the DMI is to evolve data systems into connected, adaptable, sustainable, and responsive systems that can anticipate problems and reduce harm when problems occur. The DMI is meant to address longstanding problems including siloed information on various diseases, outdated skills in the public health workforce, data transmission redundancies, inflexible and non-scalable technology, and the exclusion of health care data from public health data ecosystems. The DMI will create a new foundation for data sharing in public health with enhanced analysis capabilities for the rapid identification of trends across jurisdictions.

NCHS is also working to improve data sourcing and production, as well as data access. Regarding the latter, NCHS is developing logic models for (1) a Data Query System, (2) Metadata, application programming interfaces (APIs), and Other Data Science, and (3) a Virtual Data Enclave. Mr. Craver noted that as the DMI matures, the CDC is actively seeking new innovations that will directly address more longstanding public health challenges and he welcomes the BSC’s input, ideas, and suggestions.

### **Data Query Systems**

The Data Query System is meant to improve the ability of users to identify data sources within NCHS data assets. The system will provide enterprise-wide access tools to effectively guide users to available data. Data assets incorporate standard metadata, support APIs, and will be search engine optimized. Data tables are being improved to increase access to non-NCHS data across CDC. Of 118 tables, 103 have been updated and 89 have been checked and approved as the system is prepared for release.

### Metadata, APIs, and Other Data Science

Mr. Craver described NCHS efforts to simplify and facilitate access and use of microdata. The team built a repository of federated data with standardized and searchable catalogues and metadata, developed analysis and visualizations in the applications, and extended enterprise analytics on various datasets. To assist users, the NCHS team produced documentation of APIs with use cases explicitly for visualization and used bibliometrics to increase understanding of research outputs. The goal of these efforts is to increase use of APIs for research and improve data sharing.

### Virtual Data Enclave (VDE)

Partnerships are being finalized with the VDE provider as researcher accounts are being established. As the VDE becomes operational, researchers can access restricted-use data. The goal of these activities is to improve the continuity of data access and the ability for researchers to produce approved output at significantly reduced costs.

### Updates on the National Vital Statistics System (NVSS)

Dr. Sutton noted that the modern NVSS should be reliable, efficient, and able to provide timely high-quality data for public health research and surveillance to inform policy and response. Significant progress has been made over the past 5-6 years, because of not only efforts to respond to the pandemic, but also longstanding projects to improve vital statistics systems. Dr. Sutton highlighted three questions for BSC consideration related to this work:

- Are the goals and focus areas consistent with the needs of the public health surveillance and research community?
- What is missing in data modernization efforts?
- What are areas outside the purview of these efforts that should be avoided?

### NVSS Mortality Data

Previous modernization involved establishing electronic systems where they did not previously exist to cover all localities. This goal has been reached; however, these systems are not heavily automated, are not used in a standardized way, and often require large amounts of manual input. Recent modernization work involves building linkages and improving the flow of data between systems.

Dr. Sutton commented that recent work has focused on connecting data collection systems from state registrars and death registration systems to the NVSS and NCHS. A major part of this task is developing standards for reporting, specifically the Vital Records Death Reporting, Fast Healthcare Interoperability Resources Implementation Guide (VRDR FHIR IG). NCHS is also improving the bidirectional flow of data between the death registration systems and NVSS/NCHS, including API development and implementation. Dr. Sutton also noted that NCHS has been modifying its internal system to track data and review processes related to these records.

### Accelerating Data Modernization in Jurisdictions

A significant area of improvement in data modernization is work with localities to help improve data flows. This project is funded through the Epidemiology and Laboratory Capacity (ELC) Cooperative Agreement at CDC. FY 2021 funding for this initiative operates on three tiers. Tier 1 involves core data modernization infrastructure in which all 64 ELC recipients are eligible for funding (\$46 million total). Tier 2 involves scaling up electronic case reporting for all 64 ELCs depending on their status (\$77 million total).

Tier 3 involves NVSS modernization for 57 ELC recipients that are part of the NVSS and are eligible for \$1.35 million each (\$77 million total). Tier 3 work plans have already been submitted and are now under

review. The goal is to move all jurisdictions closer to FHIR-based, bidirectional capability by 2023-2024. Jurisdictions upgrade systems to FHIR standards, implement APIs, and engage in test piloting with NCHS. NCHS is also working with jurisdictions to propose their own improvements, including pilot interoperability with medical examiner/coroner case management systems and hospital electronic health record (EHR) systems.

Other focus areas for NVSS modernization include geocoding services for birth and death records received by NCHS; developing FHIR standards for birth data and medical death investigations; improving training to support capacity for jurisdictional modernization efforts; and building a query system for public release of provisional death data. For the query system, NCHS is updating the CDC WONDER system to support provisional mortality data and regular updates.

### ***Discussion/Reaction by the Board***

As a whole, the BSC affirmed that NVSS modernization efforts are consistent with the needs of the public health surveillance and research community. BSC members noted the need to connect EHR to death registries because of their impact on operations and research, the challenge in incorporating state laws into harmonization efforts around mortality data, and the potential usefulness of connecting EHR records to cause of death to look at comorbid factors. Mr. Craver and Dr. Sutton noted that work connecting death records to EHRs is ongoing and involves questions of how various systems interface (or allow interface) with federal systems.

In response to questions from BSC members, Mr. Craver verified that efforts are directed to standardize metadata across federal agencies, not just CDC. Further, he noted that one advantage of such a system is to provide access to data (specifically requiring physical interface) in situations such as a government shutdown or weather event and offered a follow-up discussion with the BSC member who fielded the inquiry. The discussion also established that initiatives to create a national secure data system are aligned with NCHS DMI efforts.

### **NCHS Strategic Planning**

Brian Moyer, Ph.D., Director, NCHS

Kiana C. Morris, M.B.A., C.M.C.P., Acting Director, Office of Planning, Budget and Legislation, NCHS

Dr. Moyer communicated that NCHS is transitioning from work on the outward-facing Strategic Plan to an inward-facing Operational Plan. He framed this transition as a detailed process with considerably more staff engagement and specifics involving individual projects; all of which will present numerous opportunities for BSC member feedback. Dr. Moyer also noted that NCHS leadership was prepared to answer questions. He then introduced Ms. Morris, who presented more detailed information regarding the Strategic Planning Framework.

### ***NCHS Strategic Plan***

Ms. Morris provided an overview of the Strategic Plan. The COVID-19 pandemic exposed the need for greater speed and agility in the areas of data collection and linkage. The Strategic Plan articulates NCHS' role in public health, aligns its goals to advance its work, and identifies tangible opportunities to drive its strategy forward. Its goals are to expand NCHS' relevance and external engagement, accelerate NCHS' health data capabilities, and build on NCHS' workforce and operational excellence.

Goal 1 is split into three objectives: (1) expand understanding of current and potential users, (2) improve user awareness and access to NCHS data, and (3) build and maintain strategic partnerships with public and private entities. This goal is aimed specifically at identifying and responding to opportunities to increase health equity.

Goal 2 also has three objectives: (1) modernize core systems and infrastructure, (2) expand the range of data sources and collection methods, and (3) enhance analytical tools and techniques. This goal is meant to improve the relevance, accuracy, and timeliness of NCHS data and aligns with the CDC DMI, particularly in the context of the data needs prompted by the pandemic.

Goal 3 objectives are as follows: (1) strengthen NCHS' workforce management, (2) improve professional development and leadership capacity, and (3) Improve internal coordination, collaboration, and operations. These efforts center on fostering a more diverse, equitable, and inclusive workforce.

The NCHS Operational Plan will define specific activities and milestones to implement the Strategic Plan's recommendations, as well as the sequence of activities and quantifiable metrics to measure success. Ms. Morris invited the BSC to discuss and comment on the NCHS Strategic Plan and Operational Plan.

### ***Discussion/Reaction by the Board***

The discussion opened with a request for feedback from the BSC on specific strategies and objectives, which will help to inform development of the Operational Plan. For example, Goal 1 aims to develop a strategic partnership strategy, which will require input from BSC members with relevant portfolios. In addition, Goal 3 presents opportunities for succession planning, which would also benefit from BSC input.

A BSC member noted that meeting workforce needs has been complicated by retirements, a tight labor market, and the changing nature of work in the pandemic. Work classifications could be updated to reflect current needs. NCHS is considering policy changes to address retirements and remote work, as well as changing workforce expectations. To improve workforce diversity, NCHS is also considering increasing internships and fellowships aimed at recruiting underrepresented groups. Dr. Moyer acknowledged that a key challenge is the high demand for data scientists and the capability of NCHS/Office of Personnel Management to compensate them at market rates. Another BSC member added that some sensitivity should be built into these recommendations to avoid alienating the federal statistical workforce.

Goal 2, which involves modernization of data and data collection infrastructure, presents challenges in balancing resources among various projects on a fixed budget. One example is expanding geographic detail to understand health equity issues; sample sizes of surveys could be increased, but the costs would increase significantly and therefore shrink resources for other potential projects. A BSC member highlighted the critical importance of data standardization, which relates to modernization efforts not only at NCHS, but also across CDC. Linking systems is essential to analyzing the data and providing input for future policy. Ms. Hines suggested that the Office for Health IT, whose central purpose is interoperability, could be invited to speak to the BSC during future meetings.

### **NCHS Health Equity Strategy**

Amy Branum, Ph.D., Associate Director for Science, NCHS

Dr. Branum provided an overview of NCHS projects that demonstrate the Center's historical commitment to measuring health disparities. One of the most accessed NCHS reports is the regularly released NCHS Data brief, which highlights data by race, ethnicity, age, and sex. NCHS also conducts targeted data collection on specific populations, such as the 1982-1984 Hispanic Health and Nutrition Survey and the 2014 Health Conditions and Behaviors of Native Hawaiian and Pacific Islander Survey.



During the past 18 months, NCHS has focused on highlighting health disparities exposed by the COVID-19 pandemic. NCHS has released seven provisional or novel data products; this is the first time NCHS has released provisional data from its health care surveys. NCHS has partnered with several organizations including the Census Household Pulse Survey to release health data according to several demographic characteristics including age, race and ethnicity, sexual orientation and gender identity, and locality. NCHS also launched a website on COVID-19 mortality and health disparities, which focused initially on race and Hispanic origin. This website has expanded over time with input from CDC and the Office of Minority Health & Health Equity. Web metrics show a dramatic increase in traffic to NCHS webpages that present these data. A related NCHS report on COVID-19 mortality by race and ethnicity, which highlighted disparities, was heavily trafficked by researchers and the public.

CDC has developed and initiated implementation of a comprehensive, agency-wide Health Equity Strategy with four components: (1) science agendas that embed health equity, (2) intervention plans with targeted goals, (3) partnerships with equity organizations, and (4) CDC infrastructure updates to reflect internal workforce equity goals. NCHS submitted 19 goals from six divisions outlining different facets of the new health equity strategy. NCHS received feedback from CDC and is now engaged in goal implementation and tracking. These goals include adding questions on social support, nonfinancial barriers to care, and perceived discrimination to National Health Interview Survey (NHIS); attaching industry and occupation data to the 2020 mortality data file; producing questions on cultural sensitivity for National Post-Acute and Long-term Care Study (NPALS); and releasing new data on biomarkers for inflammation and stress for National Health and Nutrition Examination Survey (NHANES).

NCHS also plans to collect gender identity data. By 2023, NCHS will identify and evaluate various questions related to health equity in this area. NHIS has added questions on gender identity to its 2022 survey, which will be evaluated by NCHS' Collaborating Center for Questionnaire Design and Evaluation Research (CCQDER). CCQDER has also been charged with evaluating other health equity issues in NCHS projects in the future.

### ***Discussion/Reaction by the Board***

A BSC member applauded the evaluative work on gender identity involving questionnaire design. Another member noted that Blue Cross has more than 100 million covered participants and is currently working to capture race and ethnicity data, as well as gender identity data, and advised that NCHS pay attention to industry standards when developing its survey questions. NCHS is working to improve the quality of EHR data, which can help identify gaps in race and ethnicity data. On gender identity data collection, Dr. Branum noted that CCQDER is working with agencies outside of CDC, including the State Department, to help align efforts across the federal government. Overall, the BSC recognized that gender identity data collection was a new field with much work to be done.

One BSC member suggested that NCHS could analyze self-reporting of multiracial populations, and another BSC member inquired about changes to Census' collection of race and ethnicity data. Dr. Branum replied that discussions on these updates are ongoing within and beyond CDC.

### **State-level Estimation Using National Health Interview Survey (NHIS)**

Stephen Blumberg, Ph.D., Director, Division of Health Interview Statistics

Although NHIS is designed to yield national-level estimates and the sample is distributed across the country largely in proportion to population distributions, NHIS is also used for state-level reporting. Two recent examples are (1) a National Health Statistics Report (NHSR) on geographic variation on health insurance coverage and (2) the annual update of NHIS tables on household telephone service, both of which supply specific state-level data.

NHIS has a history of supplying state estimates, both direct and modeled. Between the 1960s and 1980s, NHIS used ratio-adjusted synthetic estimates; in the 1990s NHIS experimented with Bayesian methods using hierarchical models. In 2004, NHIS began to develop a standardized program for producing state-level health insurance estimates. During the following years, NHIS produced estimates for states with pooled samples of 1,000+ persons per state and derived smoothed variance estimates by applying the design effects for the 10 most populous states. In 2014 and 2015, NHIS was able to produce direct annual estimates from all 50 states because ACA evaluation funds supported increased sample sizes, which allowed for more detailed analysis.

In recent years, changes have impacted NHIS' ability to produce direct state estimates. In 2016, NHIS updated its sample design drawing a sample of 534 clusters of addresses and using those clusters for the next 10 years. Less populous states have fewer clusters. In 2017, NHIS released new criteria on data presentation standards; estimates for states or subpopulations with fewer than 8 clusters were considered to be unreliable. With the NHIS sample design, 18 states have fewer than 8 clusters, and because the clusters remain consistent every year, pooling data does not improve state-level reporting. The NHIS sample will be redesigned for 2025 by rotating clusters to improve the ability to produce estimates from all states. The Census Bureau will examine the impact of this new approach on costs and workforce retention.

In addition, redesign of the NHIS 2019 questionnaire reduced the amount of health information collected from families, which reduced the number of people with data on health insurance coverage in various states even though the household counts remained the same.

Since 2011, NCHS has produced modeled estimates for all 50 states in the area of household telephone service. More recent work with statistical modeling includes a feasibility study recently launched with the Census Bureau to develop a new modeling toolkit for state estimation using NHIS data. The first four measures to be tested are (1) foregone medical care due to cost; (2) asthma rates; (3) asthma episodes; and (4) self-reported worry, nervousness, and anxiety. The goals of the project are to determine whether models can produce estimates for demographic subgroup within each state, can rely on publicly available auxiliary data and still be reasonably accurate, and can be generalized to other measures.

Dr. Blumberg closed with three questions for the BSC to consider:

1. What are the preferred methods to achieve and evaluate state estimates?
2. What is the value of state estimates from NHIS?
3. What is the value of geographic and demographic subgroup estimates within states?

### ***Discussion/Reaction by the Board***

The BSC acknowledged the value of researchers analyzing older data to study trends. Dr. Holan offered to share a paper that may inform development of measures in the new Census feasibility study on modeled estimates. Another BSC member noted that (1) software for the new feasibility study may have a significant effect on cost and level of effort, as well as the capacity for scalability; (2) NHIS could test its models by comparing them to earlier states before they were scaled up; and (3) interpolating national- and state-level models may help to fill gaps at the state level.

## **NHIS as a Platform for Additional Data Collection: The NHIS-Teen Survey and the NHIS Follow-Up Health Study**

Stephen Blumberg, Ph.D., Director, Division of Health Interview Statistics  
Benjamin Zablotzky, Ph.D., Division of Health Interview Statistics  
Adena Galinsky, Ph.D., Division of Health Interview Statistics

Two special projects, NHIS-Teen and NHIS Follow-Up Health Study, both use NHIS as a platform for additional data collection. In the case of NHIS-Teen, the goal is to collect data from an additional person in the household. As for the NHIS Follow-Up Health Study, the goal is to learn if it is feasible to collect biomeasures from survey respondents in their homes. Collectively, the two projects demonstrate the value of NHIS in data modernization efforts.

NHIS-Teen was created to address gaps in data on adolescent health. Because many data in this area are parent-reported, NHIS-Teen helped address measurement errors in areas where parents were less knowledgeable or able to observe their teenager's behaviors and activities. NHIS-Teen links adolescent self-reported surveys with parent-reported data, which is a rare combination. The stated goals of NHIS-Teen are to determine the feasibility of online data collection from adolescents, obtain health information directly from adolescents, and evaluate concordance between parent and adolescent reporting on health topics. The study period extends from July 2021 to December 2022 with a target of 3,600 completed interviews, conducted with parental consent. Topic areas include sleep, injuries, doctor visits, stress, social supports, and bullying. Early results show a permission rate from parents of 65 percent and a survey submission rate from teens of 38 percent. The submission rate was higher for teens who received invitations to participate through e-mail. Challenges for the NHIS-Teen survey revolve around parental permissions and teenager participation. Parents were reluctant to allow text and email contact, which are likely to be preferred by teens. Early results suggested that teens with disabilities were also less likely to respond.

The NHIS Follow-Up Health Study was initiated to learn about the feasibility and potential challenges of adding biomeasures to NHIS' large, dispersed sample. The researchers were interested in the feasibility of collecting anthropometric measurements and biospecimens from adults who completed NHIS interviews. Samples were collected from June-October 2021 in nine states from adults who had completed their NHIS interviews between June and September 2021 and had agreed, at the end of their NHIS interview to be contacted to schedule an appointment in the following weeks. The pilot study also asked sample adults who refused to be contacted for their reasons for refusal. If adults participated, their height, weight, waist circumference, blood pressure, and heart rate were measured, they provided a urine sample, and a blood sample was collected. Preliminary results show that 30 percent of invited sample adults agreed to be contacted to schedule an appointment, and 50 percent of those have scheduled a visit. Of the adults that started their home visit, 95 percent completed all parts of the exam.

### ***Discussion/Reaction by the Board***

Dr. Zablotzky explained that parents are asked about their child's participation in the NHIS-Teen survey at the very end of the parent/child interview. The Add Health<sup>1</sup> and the National Survey of Children's Health provided some inspiration for the NHIS-Teen survey design. A key hurdle is convincing parents not to deny consent simply because they believe a teen is uninterested. A BSC member expressed concerns that CDC has been politicized during the pandemic, which may lower survey response rates. NHIS is reviewing response rates and the political leanings and vaccination rates of various areas. Dr. Blumberg noted that the 2020 data file was recently released, which includes non-response bias data showing that older, affluent participants were more likely to participate. The NHIS Follow-Up Health

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<sup>1</sup> <https://addhealth.cpc.unc.edu/>

Study does ask the original set of CDC COVID-19 screening questions at the time of appointment scheduling, appointment reminder, and the doorstep but those questions do not include one specifically about vaccination; it was unclear whether subcontractors collecting samples in homes ask about vaccinations from respondents. The BSC members discussed the optimal time to request a follow-up interview. Further study of this topic is warranted.

**Update: Assessing the Use of Commercial Web-based Survey Panels by NCHS**

Jennifer Parker, Ph.D., Director, Division of Research and Methodology

Stephen Blumberg, Ph.D., Director, Division of Health Interview Statistics

Andy Peytchev, Ph.D., Chair, Population Health Survey Planning, Methodology and Data Presentation (PHSPMDP) Workgroup

Dr. Scott briefly noted that this presentation is under the auspices of the PHSPMDP, a workgroup (WG) required to report to the BSC—which, in turn, votes on next steps for the WG.

Dr. Parker introduced the background on the WG’s project to assess possible use of commercial web survey panels by NCHS. Commercial web surveys are typically less expensive to conduct, but have lower response rates than NCHS surveys. Nevertheless, they have been successfully used for studying how people answer survey questions and other question evaluation designs. In January 2021, Dr. Parker and Dr. Blumberg provided a similar presentation to the BSC on Pulse and RANDS, with a focus on how NCHS can build on the success of these programs and the lessons learned to supplement NCHS surveys. The Pulse survey focused on the impact of the pandemic on households generally, and the RANDS program collected survey data on pandemic-related work loss due to illness and access to care. Dr. Parker noted that CDC is supportive of NCHS’ efforts to continue with these types of data collections. In January 2021, the BSC also supported NCHS’ goal to investigate if and how to integrate commercial surveys into its programs for the following reasons: online commercial surveys can provide useful information on trends; estimates from multiple panels can provide a measure of robustness; even if results are off the mark, the survey results are stable; and these surveys can be compared in parallel to traditional surveys. In January, the BSC also considered NCHS’ questions on which survey topics should be prioritized, how often the data would be released, the risk of releasing advance estimates, and how much NCHS should emulate models of releasing experimental data from other federal statistical agencies.

From the positive response by the BSC in January 2021, PHSPMDP WG was formed in July 2021. The focus of this WG is to investigate the feasibility of: 1) collecting and disseminating data for new emerging supplemental, and high priority topics not covered by legacy NCHS surveys, 2) employing statistical methods to improve panel survey estimates using NCHS “gold standard” surveys, and 3) coordinating content between NCHS surveys and panel surveys for benchmarking and improving statistical models.

The WG is charged with addressing these two overarching questions:

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?

The WG discussed possible investigative directions it can take to address the questions: (1) supplement online panel data with other modes to improve estimates; (2) supplement one online panel with others; (3) test new questions that could be used for calibration; (4) employ other statistical approaches; and/or (5) communicate data quality in new, novel ways. Dr. Peytchev laid out the parameters: employ independent

external panels, maintain NCHS control over content, focus on new content not already captured by NCHS, and disseminate results through an NCHS Experimental Estimates program. The goal during today's meeting is to receive feedback from the BSC and then generate findings for consideration during the initial meeting in 2022. New members were invited to join the WG if interested.

### ***Discussion/Reaction by the Board***

The BSC had no comments and proceeded to a vote to approve the WG's plan to continue its work, present an update at the first 2022 meeting, and provide a report in early or mid-2022. The BSC voted unanimously to approve the WG's plan.

### **Center Updates**

#### ***Division of Health and Nutrition Examination Surveys (DHANES) Back in the Field Update***

Ryne Paulose, Ph.D., Acting Director, Division of Health and Nutrition Examination Statistics

After a pause during the pandemic, NHANES recently resumed data collection in June 2021 for the 2021-2022 survey cycle. NHANES completed dress rehearsal and is now screening households, conducting sample participant interviews, and examinations at its mobile examination centers (MECs) at its real survey locations. Due to the ongoing pandemic NHANES instituted changes centered on four principles: promote safety of survey participants and staff; shorten face-to-face contact in homes and MECs; preserve essential data needed to monitor the nation's health; and reduce respondent burdens to maximize response rates. NHANES used the CDC COVID-19 daily risk levels to assess whether in-person data collection was possible. MECs were modified for social distancing and reduced interactions, and staff and participants are subject to COVID screening procedures.

NHANES 2021-2022 sample design also factored in the pandemic. NHANES reduced oversampling by race and low-income groups, opened surveys for ages 0-19 and 60+, and limited surveys to 1-2 persons per household ages 20-59. This design decreased the number of households screened but maintained a nationally representative sample. Screening requests occurred via web, paper, phone, and in-person. A majority (80 percent) of these contacts were completed by in-person interviewers. Questionnaires were designed to be administered by phone and also adjusted to reduce completion time. Dietary supplement collection was moved to MEC visits. Since the dress rehearsal, a majority (89 percent) of surveys have been completed by phone. Questionnaires averaged about 9-20 minutes.

MECs added two antibody tests to collect SARS-CoV-2 serology data. One test detects spike-antibodies after vaccination and infection; the other nucleocapsid-based test detects antibodies after infection. The questionnaire also collects participant history with COVID-19 infection, tests, and vaccination.

Dr. Paulose noted that challenges included hiring, managing staff infections, scheduling, and regional shortages of dry ice. Further assessment is needed to assess the value of multimode screening and reasons for participant refusal at various survey stages.

#### ***Breaking New Ground for the National Health Care Surveys: Preliminary COVID-19 Data Releases***

Carol DeFrances, Ph.D., Acting Director, Division of Health Care Statistics

DHCS conducts the National Health Care Surveys which are a family of surveys that are nationally representative, provider-based, and cover a broad spectrum of health care settings from ambulatory and hospital to long-term care. The first-ever release of preliminary data and estimates in DHCS history is from three surveys: the National Hospital Care Survey or NHCS, the National Post-Acute and Long-Term Care Study or NPALS, and the National Ambulatory Medical Care Survey or NAMCS. Collectively,

these preliminary COVID-related data and estimates cover five settings across three sectors: hospital inpatient and emergency departments; two long-term care settings, adult day services centers and residential care communities; and office-based physician practices, which are forthcoming.

This work represents a significant accomplishment and provides a first look at the impact of COVID-19 in these settings at a national scale. The hospital data were added in February 2021 to the NCHS COVID-19 Dashboard and long-term data were added in August 2021.

The NCHS collects administrative claims or electronic health records data from a sample of 608 non-federal, non-institutional hospitals with 6 or more staffed inpatient beds. Data include all inpatient and emergency room encounters with personally identifiable information, which enables data linkages across hospital settings and to external sources such as data from the Centers for Medicare & Medicaid Services (CMS) and the Department of Housing and Urban Development.

NCHS released preliminary 2020 data on COVID-19 for inpatient hospitalizations and emergency department visits in February 2021. Preliminary data for January-May 2021 were added September 2021 and included data on COVID-19 encounters in urban/rural hospitals, COVID-19 screenings at hospitals, intubation or ventilator use in hospitals among confirmed COVID-19 inpatients, in-hospital mortality among confirmed COVID-19 encounters, and co-occurrence of other respiratory illnesses for hospital confirmed COVID-19 encounters.

NPALS released preliminary data on COVID-19 in residential care and adult day service centers in August 2021. These data include the number of COVID-19 cases, hospitalizations, and deaths among participants, residents and staff, practices taken to reduce COVID-19 exposure and transmission, and personal protective equipment (PPE) shortages. These data and the preliminary data from NHCS have been added to the CDC COVID data tracker pages.

Preliminary national estimates from NAMCS on physicians' COVID-related experiences and the impact on their practices will be added soon to the NCHS COVID-19 dashboard. These data will capture shortages of personal protective equipment (PPE); experiences with COVID-19 testing; providers in physician offices who tested positive for COVID-19, turning away COVID-19 patients; and telemedicine or telehealth technology use in physician offices.

Moving forward, DHCS plans to continue to release preliminary data for COVID-19 from NHCS, NPALS, and NAMCS Office-based physicians. We are also starting to look beyond COVID-19 and incorporating preliminary data releases into our survey workflows and thinking about other topics for preliminary data such as including opioid-involved hospitalizations and other emergent topics.

### ***Division of Analysis and Epidemiology (DAE) Update***

Irma Arispe, Ph.D., Director, Division of Analysis and Epidemiology

DAE reorganized in 2015 and, based on BSC recommendations, has developed four major program areas: measures research and evaluation, data linkage methodology and analysis, population health reporting and dissemination, and health promotion statistics.

DAE's current efforts aim to expand the relevance of its data and promote external engagement. DAE studies user needs for data products by examining initiatives such as *Healthy People 2030*. DAE has also redesigned its *Health, United States* web products in order to better understand who is using its products, reasons for usage, and most frequent analyses. The DAE is also expanding engagement with its partners; Dr. Arispe highlighted the NCHS work with Academy Health on developing visualizations of public health trends.

The DAE is also working to accelerate its data capabilities. NCHS runs a data linkage program that can provide policy-relevant information efficiently by linking to administrative source and geocoding surveys to facilitate the merging of contextual variables. New data linkages with NCHS include health and benefits data from the Department of Veterans Affairs (VA), CMS data from the Medicaid Statistical Information System, and updated linkages to End Stage Renal Disease data (ESRD). A partnership with the VA Office of Health Equity Data helps leverage data on race and ethnicity to examine disparities in social supports, use of services, and health outcomes. DAE is also developing a *Healthy People 2020* disparities tool to visualize disparities by population groups. DAE also works with multiple agencies to add disability inclusion data to monitor health status and access to care, including the Household Pulse and CDC COVID tracker.

DAE professional development goals focuses on collaborative opportunities, mentoring programs, and training. A major part of current CDC efforts involves COVID deployments, which has led to cross-training and developmental assignments to maintain work coverage. Several DAE staff have also engaged in CDC data upskilling and certificate programs.

### ***NCHS Website Modernization Project***

Dagny Olivares, M.P.A., Associate Director for Communication, NCHS

The purpose of NCHS's website is to serve as a primary digital access to the nation's health statistics. Ms. Olivares described challenges to using the website, including disconnected information, obsolete formats, and difficulty in navigation, discovery, and access to data. As part of the NCHS DMI, a 2-year project is under way to modernize the NCHS website, led by the NCHS Office of Information Services in partnership with the Geospatial Research, Analysis, and Services program in the Agency for Toxic Substances and Disease Registry. Modernization objectives include improved navigation and organization, increased visibility of tools and resources, and tailoring of the site for all user types and proficiencies. Among the project's major activities are (1) assess the current environment of digital assets, (2) provide a digital strategy, recommendations, and implementation plan, (3) develop internal documentation for site maintenance, and (4) create the new website, including content, graphics, and promotional materials. Ms. Olivares invited the BSC to provide feedback and recommendations for the website modernization effort.

### ***Discussion/Reaction by the Board***

A BSC member inquired about the methodology employed to modernize the NCHS website. Ms. Olivares noted that a major theme is updating technology platforms to accommodate data and data visualization, which represent a significant portion of NCHS content. Dr. Moyer recommended a thematic design based on the set of products that NCHS offers. He noted that users are less interested in how NCHS and CDC are organized and are more interested in the health-related data products that they offer and make available for public use.

In response to a question about what platforms would be restricted to the NCHS website in order to maintain security, Ms. Olivares noted that federal procedures are in place to approve the development tools utilized for this project.

A BSC member commented that survey respondents, journalists, and research scientists are the groups most likely to use the website, and asked about strategies to accommodate these disparate groups. Ms. Olivares responded that an essential task of this project is defining users and their needs in order to tailor the way in which they will interface with the website.

**BSC Wrap-up and Future Plans**

Linette T. Scott, M.D., M.P.H., Chair, BSC  
Brian Moyer, Ph.D., Director, NCHS

Dr. Scott thanked participants for their engagement in the NCHS BSC meeting and for BSC support during her tenure as Chair.

Dr. Moyer also expressed his thanks to the BSC members and presenters. He observed that many projects will be subject to BSC input in the near term. Related to this comment, Dr. Moyer highlighted the work on the NCHS Strategic Plan and Operational Plan. He also noted that the BSC will likely spend more time discussing progress on the DMI plan at future meetings. Health equity and social determinants of health will also remain a critical focus of NCHS’ work for the foreseeable future.

Data interoperability emerged as a major theme across multiple presentations. Dr. Moyer noted that NCHS is involved in data standardization efforts with multiple agencies and encouraged follow up conversations on this topic.

Dr. Moyer also encouraged the BSC to provide feedback on the new format to provide NCHS center updates.

Dr. Moyer looked forward to welcoming new members at the next meeting and thanked Dr. Scott for her service as BSC Chair.

**Public Comment**

The public comment period closed with no comments from the public. Public attendees were also invited to submit emails in lieu of comments at the meeting itself.

The meeting was adjourned at 5:30 pm ET.

To the best of my knowledge, the foregoing summary of minutes is accurate and complete.

\_\_\_\_\_/s/\_\_\_\_\_  
Linette T. Scott, M.D., M.P.H.  
Chair, BSC

\_\_\_\_\_  
3/22/2022  
DATE