



NHANES 2021-2022: Returning to data collection during a pandemic

Ryne Paulose, Ph.D., Acting Director, NHANES

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NHANES 2021 – 2022 Data Collection

Dress Rehearsal Dates

	Screening Households	Sample Participant Interviews	Examinations at MEC	MEC Closing Date
Dress Rehearsal	June	July	Aug	Sept

NHANES 2021 – 2022 Data Collection

Dress Rehearsal and Stand 1 Dates

	Screening Households	Sample Participant Interviews	Examinations at MEC	Closing Date
Dress Rehearsal	June	July	Aug	Sept
Stand 1	July	Aug	Sept	Oct

NHANES 2021 – 2022 Data Collection

Dress Rehearsal and Stand 1 – 5 Dates

	Screening Households	Sample Participant Interviews	Examinations at MEC	Closing Date
Dress Rehearsal	June	July	Aug	Sept
Stand 1	July	Aug	Sept	Oct
Stand 2	July	Sept	Sept	Nov
Stand 3	Aug	Sept	Oct	Dec
Stand 4	Sept	Oct	Nov	Dec
Stand 5	Oct	Nov	Dec	Jan

NHANES 2021 – 2022

- When we returned to the field, we did not expect infection rates to be zero
- As a result, several changes were made
- Guiding principles around these changes were to:
 - Promote the safety of survey participants and field staff
 - Shorten the face-to-face contact in the home and the MEC
 - Preserve the essential data collection needed to monitor the nation's health
 - Reduce respondent burden in order to maximize response rates

2021 – 2022 Sample Design

- No oversampling by race and ethnic groups
- No oversampling low-income white/other group
- In every selected dwelling unit...
 - All persons 0-19 years of age are eligible to participate
 - All 60+ years are eligible
 - 1-2 persons 20-59 years, depending on number of persons in HH 20-59
- About half the number of DUs will need to be screened than in 2019
- Target examined sample ~10,000 persons across the 30 PSUs;
Each 15 nationally representative

Monitoring COVID-19 in the field

- Prior to starting in an NHANES location, COVID risk levels are closely monitored
- NHANES uses the 7-day rolling average for new cases per 100K to classify counties into...
 - green (less than one case),
 - yellow (between 1 and 9 cases),
 - orange (between 10 and 24 cases), and
 - red (more than 24 cases) risk levels.
- In-person data collection only occurs after assessing a county's risk level and vaccination rates, field staff vaccination rates, and the latest CDC guidance.

COVID-19 Risk Levels at Stand Interview Start

Stand	Interview Start
Dress Rehearsal	July 2021
1	August 2021
2	September 2021
3	September 2021
4	October 2021
5	November 2021

2021 – 2022 Household Screening

- A multi-mode approach allows screener responses via web, paper, phone or in-person interview.
- Mailings include:
 - Introductory Letter – push to the web (and phone option)
 - Reminder Postcard, 7 days later – push to the web (and phone option)
 - Follow-up Letter via FedEx, 10 days later - push to the web, also includes a paper screener
 - Final Letter, 10 days later - push to the web, with statement noting an upcoming field interviewer visit

Contact mode among completed Household Screeners

	Dress Rehearsal Stand	Stand 1	Stand 2
Web, Paper, or Phone	20%	22%	19%
In-person	80%	78%	81%

2021 – 2022 Home Interview

- Sample Participant (SP) and family questionnaire are now administered by telephone, with an option for in-person
- SP questionnaire reduced by over 50%; Family questionnaire reduced by about a quarter
- In-home collection of infant formula, salt use, and home water were all discontinued
- In-home collection of individual prescription medications through medication inventory method was discontinued.
- Dietary supplement collection was moved to after the MEC visit with the dietary interview.

Interview mode among persons interviewed

Mode	Dress Rehearsal Stand	Stand 1	Stand 2*
In-person	64.4%	62.5%	10.1%
Phone	35.6%	37.5%	89.9%

* 2 more weeks before stand closes

Time of home interview (median) among interviewed persons

Age Group (years)	Dress Rehearsal Stand (minutes)	Stand 1 (minutes)
SP Questionnaire		
0-15	9.5	9.1
16-19	17.2	13.5
20-39	16.7	16.9
40-59	18.4	18.4
60+	19.2	20.4
Family Questionnaire		
	7.6	8.4

Time of home interview (median and percentile) among interviewed persons

Age Group (years)	Dress Rehearsal Stand Median Time (minutes)	Stand 1 Median Time (minutes)	Stand 1 90 th Percentile (minutes)
SP Questionnaire			
0-15	9.5	9.1	19.6
16-19	17.2	13.5	25.7
20-39	16.7	16.9	34.6
40-59	18.4	18.4	34.6
60+	19.2	20.4	41.6
Family Questionnaire			
	7.6	8.4	17.0

2021 – 2022 Incentive Structure

- All incentives paid using debit cards
- Total incentive stays the same with some modifications
 - SP interview incentive added - \$25
 - MEC Exam
 - Age 0-11y - \$40, 12-15y - \$60, and 16 and older - \$85
 - Transportation and child/adult care unchanged
 - No fasting incentive
 - Post-exam interviews
 - Dietary Day 1 - \$25, Dietary Day 2 - \$25, and Food Consumer Behavior Survey phone follow-up module - \$15

2021 – 2022 Mobile Examination Center (MEC)

- Structural Changes to trailers to promote social distancing
- Modified MEC flow options to reduce interaction with others
- New exam schedule with 4 or 5, 2.5h sessions per day that accommodate about 5 SPs each session.
- Extra cleaning between SPs
- Staff
 - Wear PPE (masks, gloves, lab coat)
 - Be vaccinated
 - Conduct daily symptom screening
- Participants and visitors, prior to MEC entry
 - CDC COVID-19 screening questions
 - Temperature checks
 - Wear face mask

COVID-19 Specific Content: SARS-CoV-2 serology testing

- Two antibody tests added:
 - Spike-based tests will detect antibodies after vaccination and natural infection.
 - Nucleocapsid-based tests will detect antibodies only after natural infection.
- Produce nationally representative prevalence estimates of past infection and/or vaccine-induced immunity among NHANES participants aged 1 year and older using blood-based (serological) antibody testing.

COVID-19 Specific Content: Home Interview Questions

- Prior to the health exam and blood draw at the mobile exam center, participants are asked the following COVID-19 questions during their home interview:
 - Have you ever had COVID-19, or the illness caused by the Coronavirus 2019?
 - How would you describe your symptoms when they were at their worst? (None, Mild, Moderate, Severe)
 - Have you ever been tested for coronavirus or COVID-19?
 - Did the swab or saliva test find that you had coronavirus or COVID-19? What was the date of your positive COVID-19 test? This does not include the blood test.
 - Have you ever had an antibody blood test to determine if you had coronavirus or COVID-19 in the past? Did the blood test find that you had antibodies for coronavirus or COVID-19? What was the date of this blood test?
 - Have you ever received a vaccine for COVID-19? Some COVID-19 vaccines are given in 2 separate doses and some are given in one dose. Which kind of COVID-19 vaccine did you receive? The one-dose vaccine or the two-dose vaccine?
 - How many doses of COVID-19 vaccine have you received? In what month and year did you receive the most recent dose of vaccine for COVID-19?
 - Have you ever had an overnight stay in a hospital for suspected or confirmed COVID-19?
 - Has anyone in your household ever tested positive for coronavirus or COVID-19?
 - Do you currently have a health condition that a doctor or other health professional told you weakens the immune system, making it easier for you to get sick?
 - In the past 12 months, have you taken prescription medication or had any medical treatments that a doctor or other health professional told you/ would weaken your immune system?
 - During the past 12 months, have you had a flu vaccination?

Summary of select COVID questions from first few Stands of NHANES 2021 – 2022

Ever received a vaccine for COVID-19

Yes	61.3%
No	38.5%
RF	0.2%

Have you ever had COVID-19

Yes	
No	86.6%
Maybe	1.8%
RF	0.1%
DK	0.5%

Ever been tested for COVID-19

Yes	59.4%
No	40.3%
DK	0.3%

Note: unweighted percentages; includes Dress Rehearsal Stand and first 3 Stands with SP questionnaire data

NHANES 2020 – 2022: Current Learnings

- Overall changes to sampling, home interview, and MEC appear successful.
- Some modifications were necessary:
 - Adjusting MEC schedule due to lab constraints
 - Adjusting protocols based on new or updated policies (e.g., vaccination of federal contractors, updates to CDC COVID screener)
- Challenges:
 - Hiring field positions
 - Managing when staff become infected
 - Some scheduling challenges
 - Regional shortage of dry ice
- Needs further assessment:
 - Value of multimode screening
 - Reasons for SP refusals at each stage of survey (i.e., screener, interview, and exam)

More to come...at the next BSC meeting

