

National Health and Nutrition Examination Survey: 1999–2022 Survey Content Brochure





This Survey Content Brochure summarizes the available 1999–2022 National Health and Nutrition Examination Survey data.

The National Health and Nutrition Examination Survey (NHANES) is a program of studies designed to assess the health and nutritional status of adults and children in the United States. The survey is unique in combining interviews with physical examinations and laboratory tests.

For more information about NHANES, visit: www.cdc.gov/nchs/nhanes.htm.

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Table 1. Questionnaire components: National Health and Nutrition Examination Survey, 1999–2022



Component or l	aboratory test conducted	on original sa	mple descri	otion 🗔	Change from	original sam	nple description	on C	Component o	r laboratory t	est not condu	ucted	
Section	Sample description			2003-2004	_		2009–2010						2021–2022
Survey participant (SP) questionnais	re				<u> </u>								
Acculturation (ACQ)	12 years and over												
Allergy (AGQ)	1 year and over												
Air quality (AQQ)	16 years and over												
Balance (BAQ)	40 years and over												
Blood pressure and cholesterol (BPQ)	16 years and over												
Cardiovascular disease (CDQ)	40 years and over												
Cognitive functioning (CFQ)	60 years and over												
COVID-19 (COQ)	All ages												
Demographics (DMQ)	All ages												
Dermatology (DEQ)	6–59 years												
Diabetes (DIQ)	1 year and over												
Diet behavior and nutrition (DBQ)	All ages												
Dietary screener module (DTQ)	2–11 years												
Dietary supplements (DSQ) and prescription medications (RXQ)	All ages												
Disability status (DLQ)	1 year and over												
Early childhood (ECQ)	Birth-15 years												
Functioning (FNQ)	5 years and over												
Health insurance (HIQ)	All ages												
Hearing/audiometry (AUQ)	1 year and over												
Hepatitis (HEQ)	6 years and over												
Hospital utilization and access to care (HUQ)	All ages												
Immunization (IMQ)	All ages												
Infant formula (IFQ)	Birth to 2 years												
Inflammatory arthritis pain (ARQ)	20-69 years												
Kidney conditions (KIQ)	20 years and over												
Medical conditions (MCQ)	1 year and over												
Miscellaneous pain (MPQ)	20 years and over												
Occupation (OCQ)	16 years and over												



Component or I	aboratory test conducted			_	1	nple descripti		Component o			i	1
Section	Sample description	1999–2000	2001–2002 2003–200	2005–2006	2007–2008	2009–2010	2011–2012	2013–2014	2015–2016	2017–2018	2019–2020	2021–2022
Oral health (OHQ)	2 years and over											
Osteoporosis (OSQ)	20 years and over											
Physical activity and physical fitness (PAQ)	2 years and over											
Physical functioning (PFQ)	1 year and over											
Respiratory health and disease (RDQ)	1 year and over											
Sleep disorders (SLQ)	16 years and over											
Smoking and tobacco use (SMQ)	20 years and over											
Social support (SSQ)	60 years and over											
Taste and smell (CSQ)	40 years and over											
Tuberculosis (TBQ)	1 year and over											
Vision (VIQ)	50 years and over											
Weight history (WHQ)	16 years and over											
Family questionnaire												
Consumer behavior (CBQ)	All ages											
Demographic background (HFQ) occupation (DMQ)	All ages											
Food security (FSQ)	All ages											
Health insurance (HIQ)	All ages											
Housing characteristics (HOQ)	All ages											
Income (INQ)	All ages											
Pesticide use (PUQ)	All ages											
Salt use (SUQ)	All ages											
Smoking household (SMQ)	All ages											
Mobile examination center (MEC) qu	uestionnaire											
Audio computer-assisted self- interview (ACASI)	8 years and over											
Alcohol use (ALQ)	12–19 years											
Alcohol use (ALQ)	20 years and over											
Current health status (HSQ)	1 year and over											
Drug use (DUQ)	12–69 years											



·	aboratory test conducted				iginal sample des		Component or lab			
Section	Sample description	1999–2000	2001–2002 2003–2004	2005–2006 20	007-2008 2009-	2010 2011–2012	2013–2014 20	15–2016 2017–2	2018 2019–2020	2021–202
Food security (FSQ)	12–15 years									
Kidney conditions/urology (KIQ)	20 years and over									
Mental health	8 years and over									
Attention deficit hyperactivity disorder (ADHD)	8–15 years									
Anxiety	8–19 years									
Conduct disorders	8–19 years									
Depression	8–19 years									
Depression and depression screener (DPQ)	1/2 sample 20–39 years									
Eating disorders	8–19 years									
Elimination disorders	8–11 years									
Generalized anxiety	1/2 sample 20–39 years									
Panic disorder	8–19 years							-		
Panic disorder	1/2 sample 20–39 years									
Physical activity and physical fitness (PAQ)	12–15 years									
Prostate conditions (PSQ)	Males 20 years and over									
Pubertal maturation (PMQ)	8–19 years									
Sexual behavior (SXQ)	14–59 years									
Smoking and tobacco use (SMQ)— Youth	12–19 years									
Computer-assisted personal interview (CAPI)	8 years and over									
Bowel health (BHQ)	20 years and over									
Dietary screener module (DTQ)	12–69 years								-	
Muscle pain/creatine kinase (CKQ)	12 years and over									
Pesticide use (PUQMEC)	6 years and over									
Prostate conditions (KIQ)	Males 20 years and over									



Component or I	aboratory test conducted	on original sa	mple descrip	otion	Change from	n original sam	ple description	on C	Component o	r laboratory t	est not cond	ucted	
Section	Sample description	1999–2000	2001–2002	2003-2004	2005–2006	2007–2008	2009–2010	2011–2012	2013–2014	2015–2016	2017–2018	2019–2020	2021–2022
Reproductive health (RHQ)	Females 12 years and over												
Smoking and tobacco use (SMQ)— Adult	20 years and over												
Volatile toxicants (VTQ)	1/2 sample 12 years and over												
Weight history—Youth (WHQMEC)	8–15 years												

Table 2. Postexamination follow-up questionnaire components: National Health and Nutrition Examination Survey, 1999–2022



Component or labora	tory test conducted on or	iginal sample	description	Chan	ge from origii	nal sample description	Comp	onent or labo	ratory test no	t conducted		
Component	Sample description	1999–2000	2001–2002	2003-2004	2005–2006	2007–2008 2009–201	0 2011–2012	2013-2014	2015–2016	2017–2018	2019–2020	2021–2022
Dietary, day 1	All ages											
Dietary, day 2	All ages											
Dietary supplement, day 2	All ages											
Dietary supplement use, 30 day	All ages											
Flexible consumer behavior survey module (FCBS) phone follow-up (CBQ)	1 year and over											
Food frequency (FFQ)	2 years and over											
Hepatitis C follow-up (HCQ)	6 years and over with Hepatitis C											
Prostate-specific antigen follow-up (PSQ)	Males 40 years and over with high results											

Table 3. Examination components: National Health and Nutrition Examination Survey, 1999–2022



Component or	laboratory test conducted	on original san	nple descrip	otion 🗔	Change from	n original sam	ple descripti	on	Component o	r laboratory t	test not cond	ucted	
Component	Sample description	1999–2000			_						i	2019–2020	2021–2022
Arthritis body measures	20–69 years												
Audiometry	1/2 sample (20–69 years)												
Balance	1/2 sample (40–69 years)												
Bioelectrical impedance analysis	8–49 years												
Blood pressure	8 years and over												
Body measurements	All ages									_			
Cardiovascular (CV) fitness	12–49 years												
Cognitive functioning	60 years and over												
Dermatology	20–59 years												
Dietary	All ages												
Dietary supplement	All ages												
Dual energy x-ray absorptiometry	8 years and over												
Abdominal aortic calcification	40 years and over												
Body composition	8 years and over												
Bone density—Hip and spine	8 years and over												
Vertebral fracture assessment	40 years and over												
Grip strength test	6 years and over												
Liver ultrasound transient elastography	12 years and over												
Lower extremity disease	40 years and over												
Peripheral neuropathy	40 years and over												
Peripheral vascular disease	40 years and over												
Ophthalmology	40 years and over												
Retinal photo	40 years and over												
Visual fields	40 years and over												
Oral health	2 years and over												
Dental fluorosis imaging	6–19 years												
Physical activity monitor	6 years and over												
Muscle strength	50 years and over												





Component	or laboratory test conducted	l on original sa	mple descrip	otion	Change from	original sam	ple description	on C	Component o	r laboratory t	est not cond	ucted	
Component	Sample description	1999–2000	2001–2002	2003-2004	2005-2006	2007-2008	2009–2010	2011–2012	2013–2014	2015–2016	2017–2018	2019–2020	2021–2022
8-foot timed walk	50 years and over										•	•	
20-foot timed walk	50 years and over												
Isokinetic	50 years and over												
Physician examination	All ages												
Respiratory health	6–79 years												
Exhaled nitric oxide	6–79 years												
Spirometry	6–79 years												
Taste and smell	40 years and over												
Tuberculin skin test	1 year and over												
Vision	12 years and over												



Compon	ent or laboratory test cond	ducted on original samp	e description	Chang	ge from origir	nal sample de	escription [Compo	nent or labo	ratory test no	ot conducted	
Component	Sample description	1999–2000 2001–2002			2007–2008				ı		2019–2020	2021–2
Acetylcholinesterase, RBC (blood)	6 years and over			l l	ı			l	Į.	ı		
Acrylamide (blood)	3 years and over											
Acrylonitrile (blood)	1/3 sample (6 years and over)											
Albumin (urine)	6 years and over											
Albumin (home urine)	6 years and over											
Aldehydes (blood)	1/3 sample (12 years and over) and all smokers 18 and over											
Alpha-1-acid glycoprotein (AGP) (blood)	1–5 years and females 12–49 years											
Apolipoprotein (B) (blood)	1/2 sample 12 years and over (fasting)											
Aromatic amines (urine)	1/3 sample (6 years and over) and all smokers 18 and over											
Aromatic diamines/amines (formerly diisocyanates) (urine)	3–5 years and 1/3 sample (6 years and over)											
Arsenic and arsenic species (including metabolites) (urine)	1/3 sample (6 years and over)											
Butrylcholinesterase activity and concentration (blood)	6 years and over											
Bone alkaline phosphatase (blood)	8 years and over											
BV/trichomonas bacterial vaginosis (BV)/trichomonas (urine)	Females 14–49 years											
Cadmium (blood) (urine)	1 year and over											
Caffeine and caffeine metabolites (urine)	1/3 sample (6 years and over)											
CD4/CD8 (blood)	18-49 years, HIV+, and controls											
Celiac disease (tTG-EMA) (blood)	6 years and over											





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Compor	ent or laboratory test cond	ducted on original s	ample description	Change from	original sample de	escription [Componer	nt or laboratory test n	ot conducted	
Component	Sample description	1999–2000 2001	-2002 2003-2004	2005–2006 2007–2	2009–2010	2011–2012	2013–2014 20	015–2016 2017–2018	2019–2020	2021–2022
Chemistry panel (standard biochemistry panel) (blood)	12 years and over							·		
Chlamydia (urine)	14–39 years									
Cholesterol (total) (blood)	3 years and over									
High density lipoprotein (HDL)	3 years and over									
Low density lipoprotein (LDL)	3 years and over (fasting)									
Chromium/cobalt (blood)	40 years and over									
Complete blood count (blood)	1 year and over									
Cotinine (blood)	3 years and over									
Cotinine and nicotine analogs (urine)	1/3 sample (6 years and over)									
COVID-19 serology (blood)	1 year and over									
C-reactive protein (CRP)\Highsensitivity C-reactive protein (HSCRP) (blood)	3 years and over									
Creatine phosphokinase (blood)	12 years and over									
Creatinine (urine)	6 years and over									
Creatinine (home urine)	6 years and over									
Cryptosporidium (blood)	6–49 years									
Cytomegalovirus (blood)	1–5 years									_
Dust allergens	1 year and over									
Enterovirus (EVD-68) (blood)	1–11 years									
Environmental phenols (urine)	1/3 sample (6 years and over)									
Erythrocyte protoporphyrin (blood)	1 year and over									
Fatty Acids, washed RBCs (blood)	6 years and over						-			
Ferritin (blood)	1 year and over									
Fibrinogen (blood)	40 years and over									
Flame Retardants (urine)	3–5 years, 1/3 sample (6 years and over)									
Fluoride (blood - plasma)	6–19 years									



Compone	ent or laboratory test con	ducted on original sam	nple description	Change from o	riginal sample de	escription [Compo	nent or labo	atory test no	t conducted	
Component	Sample description	1999–2000 2001–20	2003–2004	2005–2006 2007–20	08 2009–2010	2011–2012	2013-2014	2015–2016	2017–2018	2019–2020	2021–2022
Fluoride (water)	Birth–19 years		·		,						
Fluoride (urine)	6–19 years										
Folate (RBC) (blood)	3 years and over										
Folate (blood)	3 years and over										
Folate Forms, washed RBCs (blood)	6 years and over										
Fungicides (urine)	1/2 sample (6–11 years)										
Glucose (blood)	12 years and over										
Glycohemoglobin (blood)	12 years and over										
Gonorrhea (urine)	14–39 years										
Halogenated phenolic compounds/ environmental pesticides (blood)	1/2 sample (6–11 years)										
Helicobacter pylori (blood)	3 years and over										
Hepatitis (antiHBs) (blood)	2 years and over										
Hepatitis A, B, C, D, E (blood)	6 years and over										
Herbicides—Substituted ureas and others (urine)	1/2 sample (6–11 years)										
Herpes 1 and 2 antibody (blood)	14–49 years										
Heterocylic aromatic amines (urine) (tobacco markers)	1/3 sample (6 years and over) and all smokers 18 and over										
HLA-B27 (inflammatory arthritis) (blood)	20–69 years										
Homocysteine (blood)	3 years and over										
Human immunodeficiency virus (HIV) antibody (blood)	18–49 years										
Human papillomavirus (HPV) (oral rinse)	14–69 years										
Human papillomavirus (HPV) (blood)	14–59 years										
Human papillomavirus (HPV) (swab)	Females 14–59 years										
Human papillomavirus (HPV) (swab)	Males 14–59 years										
Immunoglobulin E-allergens (blood)	1 year and over										



Compor	nent or laboratory test con-	ducted on ori	ginal sample	description	Chan	ae from oriai	nal sample de	escription	Compo	nent or labo	ratory test no	ot conducted	
Component	Sample description								2013–2014	ı	2017–2018	1	1
Insulin/C-peptide (blood)	12 years and over (fasting)												
lodine (urine)	1/3 sample (6 years and over)												
lodine (salt)	3–5 years and 1/3 sample (6 years and over)												
Iron (blood)	12 years and over												
Iron Panel—Iron, Total iron–binding capacity (TIBC)/transferrin saturation (blood)	1 year and over												
Latex (blood)	12–59 years												
Lead (blood)	1 year and over												
Lead (urine)	1/3 sample (6 years and over)												
Lead dust	1–5 years												
Liver genetics (blood)	18 years and over												
Lp(a) (Lipoprotein(a)) (blood)	12 years and over (fasting)												
Magnesium (blood)	12 years and over												
Manganese (blood)	1 year and over												
Manganese (urine)	1/3 sample (6 years and over)												
Measles/varicella/rubella (blood)	6–49 years												
Mercury (hair)	1–5 years, females 16–49 years												
Mercury (urine)	Females 16–49 years												
Mercury, total and speciated (blood)	1–5 years, females 16–49 years												
Metals (blood)	1/3 sample (6 years and over)												
Metals (urine)	1/3 sample (6 years and over)												



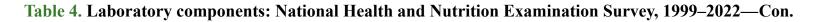
Compor	nent or laboratory test cond	ducted on ori	ginal sample	description	Chand	ge from origir	nal sample de	escription	Comp	onent or labo	ratory test no	ot conducted	
Component	Sample description	ı		2003–2004	2005–2006				2013–2014			2019–2020	2021–2022
Methicillin resistant staphlococcus aureus (MRSA) (blood)	1 year and over					'		1	'		1	'	1
Methylmalonic acid (blood)	3 years and over												
Neonicotinoids (urine)	3–5 years, 1/3 sample (6 years and over)												
Nicotine analogs (urine)	1/3 sample (6 years and over) and all smokers 18 years and over												
NNAL (urine)	6 years and over												
Nondioxin-like polychlorinated biphenyls (blood) (pooled)	1/3 sample (12 years and over)												
Nondioxin-like polychlorinated biphenyls (blood)	1/3 sample (12 years and over)												
N-teleopeptide (NTX) (blood)	8 years and over												
Oral glucose tolerance (OGTT) (blood)	12 years and over (fasting)												
Organophosphate insecticides (urine)	1/2 sample (6–11 years) and 1/3 sample (12 years and over)												
Osmolality (urine)	6 years and over												
Parathyroid hormone (blood)	6 years and over												
Perchlorate/thiocynate/nitrates (urine)	1/3 sample (6 years and over)												
Perchlorate (water)	1/2 sample 12 years and over												
Personal care and consumer product chemicals and metabolites (urine)	1/3 sample (6 years and over)												
Pesticides (urine) (pooled)	1/3 sample (6 years and over)												
Pesticides (urine)	1/3 sample (6 years and over)												



Compon	ent or laboratory test cond	ducted on original samp	e description	Chan	ge from origina	l sample des	scription [Compo	nent or labo	ratory test no	t conducted	
Component	Sample description	1999–2000 2001–2002			2007–2008	_		2013–2014			2019–2020	
Organochlorine (blood)	1/3 sample (12 years and over)											
Pyrethroid (urine)	1/3 sample (6 years and over)											
Phthalates (urine)	1/3 sample (6 years and over)											
Phytoestrogens (urine)	1/3 sample (6 years and over)											
Polyaromatic hydrocarbons (PAH) (urine)	1/3 sample (6 years and over)											
Polybrominated diphenyl ethers (blood) (pooled)	1/3 sample (12 years and over)											
Polybrominated diphenyl ethers (blood)	1/3 sample (12 years and over)											
Polychlorinated and polybrominated dibenzo-p-dioxins, dibenzo-furans, coplanar and mono-orthosubstituted biphenyls (blood) (pooled)	1/3 sample (12 years and over)											
Polychlorinated and polybrominated dibenzo-p-dioxins, dibenzo-furans, coplanar and mono-orthosubstituted biphenyls (blood)	1/3 sample (12 years and over)											
Perfluoroalkyl and polyfluoroalkyl substances (blood)	1/3 sample (12 years and over)											
Polyunsaturated fatty acids (blood)	3 years and over											
Prostate specific antigen (PSA) (blood)	Males 40 years and over											
Selenium (blood)	1 year and over											
Selenium/copper/zinc (blood)	1/3 sample (6 years and over)											
Sex steroid hormone panel (blood)	3 years and over											
17α-hydroxyprogesterone	6 years and over											
Androstenedione	6 years and over											
Anti-Müllerian hormone	6 years and over											



Compon	ent or laboratory test cond	ducted on ori	ginal sample	description	Chan	ge from origi	nal sample d	escription	Comp	onent or labo	ratory test no	t conducted	ı
Component	Sample description	1999–2000	2001–2002	2003–2004	2005–2006	2007–2008	2009–2010	2011–2012	2013–2014	2015–2016	2017–2018	2019–2020	2021–2022
Dehydroepiandrosterone	6 years and over									_			
Estradiol	6 years and over												
Estrone	6 years and over												
Estrone sulfate	6 years and over												
Follicle-stimulating hormone/ luteinizing hormone (FSH/LH)	Females 35–60 years												
Progesterone	6 years and over												
Sex hormone binding globulin	6 years and over												
Testosterone	6 years and over												
Stored sera (blood)	6 years and over												
Stored urine (urine)	6 years and over												
Syphillis (blood)	18–49 years												
Terpenes (blood)	1/3 sample (6 years and over for 2021) and 1/2 sample (6 years and over for 2022)												
Thyroid function testing (blood)	1/3 sample (12 years and over)												
Tobacco-specific nitrosamines (urine)	1/3 sample (6 years and over) and all smokers 18 and over												
Toxoplasma (blood)	6-49 years												
Trans fatty acids (blood)	3–11 years, a.m. 12 years and over												
Transferrin receptor (blood)	1–5 years, females 12–49 years												
Trichomonas (urine)	14–59 years												
Triglycerides (blood)	Subsample 3 years and over												
Tuberculosis (blood)	6 years and over												
Urine flow rate calculation (urine)	6 years and over												





Compo	nent or laboratory test con	ducted on origi	nal sample	description	Chan	ge from original sample o	description [Compo	onent or labo	ratory test no	t conducted	
Component	Sample description	1999–2000	2001–2002	2003–2004	2005–2006	2007–2008 2009–2010	2011–2012	2013–2014	2015–2016	2017–2018	2019–2020	2021–2022
Vitamin A/E/carotenoids (blood)	3 years and over				<u>'</u>	•	•	•				1
Vitamin B6 (blood)	1 year and over											
Vitamin B12 (blood)	3 years and over											
Vitamin C (blood)	6 years and over											
Vitamin D (blood)	6 years and over											
Volatile N-nitrosamines (urine)	1/3 sample (6 years and over) and all smokers 18 and over											
Volatile organic compounds (VOC) (blood)	Subsample 20–59 years											
Volatile organic compounds (VOC) exposure monitor (blood)	Subsample 20–59 years											
Volatile organic compounds (VOC) (urine)	Subsample (6 years and over) and all adult smokers											
Volatile organic compounds (VOC) (water)	Subsample 20–59 years											
White blood cells/deoxyribonucleic acid (WBC/DNA) (blood)	20 years and over				·				_	_		

NHANES Data Access

Data are posted for free download on the NHANES website: www.cdc.gov/nchs/nhanes.htm.

Research Data Center

The National Center for Health Statistics (NCHS) is responsible for protecting the confidentiality of all survey respondents, including NHANES respondents. To reduce the risk of disclosure, not all available data are released to the public. Secure access to restricted data may be granted through NCHS' Research Data Center (RDC). All researchers who are interested in using NHANES restricted data must submit a research proposal outlining the need for more sensitive data. Once approved, analysts from RDC work with researchers to create a data file specific to the research question. These data sets are never released to the researcher, but several modes of secure unidentifiable access are available. For more information about accessing NHANES data through RDC, including the format for the research proposal, the type of data available, and the estimated cost of access, visit: www.cdc.gov/rdc/.

Confidentiality—Maintaining study participant confidentiality is the primary objective of RDC. Together, the confidentiality orientation, confidentiality forms, and disclosure manual outline practices that are essential to protecting the data and preventing disclosure of confidential information. The research team and other authors listed in the proposal must complete the Confidentiality Orientation and Confidentiality forms.

Disclosure Review—RDC disclosure review policies and procedures exist to protect the confidentiality of NCHS study participants. Your output will be reviewed by an RDC staff member for disclosure concerns. It is your responsibility to use these statistics in a way that does not pose additional risk to the respondents.

Federal Statistical Research Data Centers—The Federal Statistical RDCs are partnerships between federal statistical agencies and leading research institutions. They are secure facilities managed by the U.S. Census Bureau to provide secure access to a range of restricted-use microdata for statistical data use purposes only. For more information, visit: www.census.gov/fsrdc.

Data Linkage

For information about NCHS data linkage, visit: www.cdc.gov/nchs/data-linkage/index.htm.