



# Upcoming Changes to the National Hospital Ambulatory Medical Care Survey (NHAMCS) and Update on the National Ambulatory Medical Care Survey (NAMCS)

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NCHS Board of Scientific Counselors Meeting  
October 24, 2022

# Questions for the Board

- In addition to preparing to collect ambulatory visit data from provider groups and FQHCS, we are also interested in potential sources that may be used to supplement any primary data collection. Would the BSC members be aware of any sources of data that would be worth exploring?
- DHCS will soon seek to recruit two large provider groups (50+ individuals) and an individual FQHC for participation in our FHIR IG pilot. Any suggestions on providers groups or health centers who may be interested or willing to participate?

# Agenda

- **Provide** an overview of the National Health Care Surveys.
- **Review** the National Hospital Ambulatory Medical Care Survey.
  - **Provide** an overview of NHAMCS.
  - **Discuss** the future of NHAMCS.
- **Review** the National Ambulatory Medical Care Survey.
  - **Provide** an overview of NAMCS.
  - **Update** on the future of the NAMCS Physician/Provider Component.
  - **Update** on the future of the NAMCS Health Center Component.

# Overview of the National Health Care Surveys

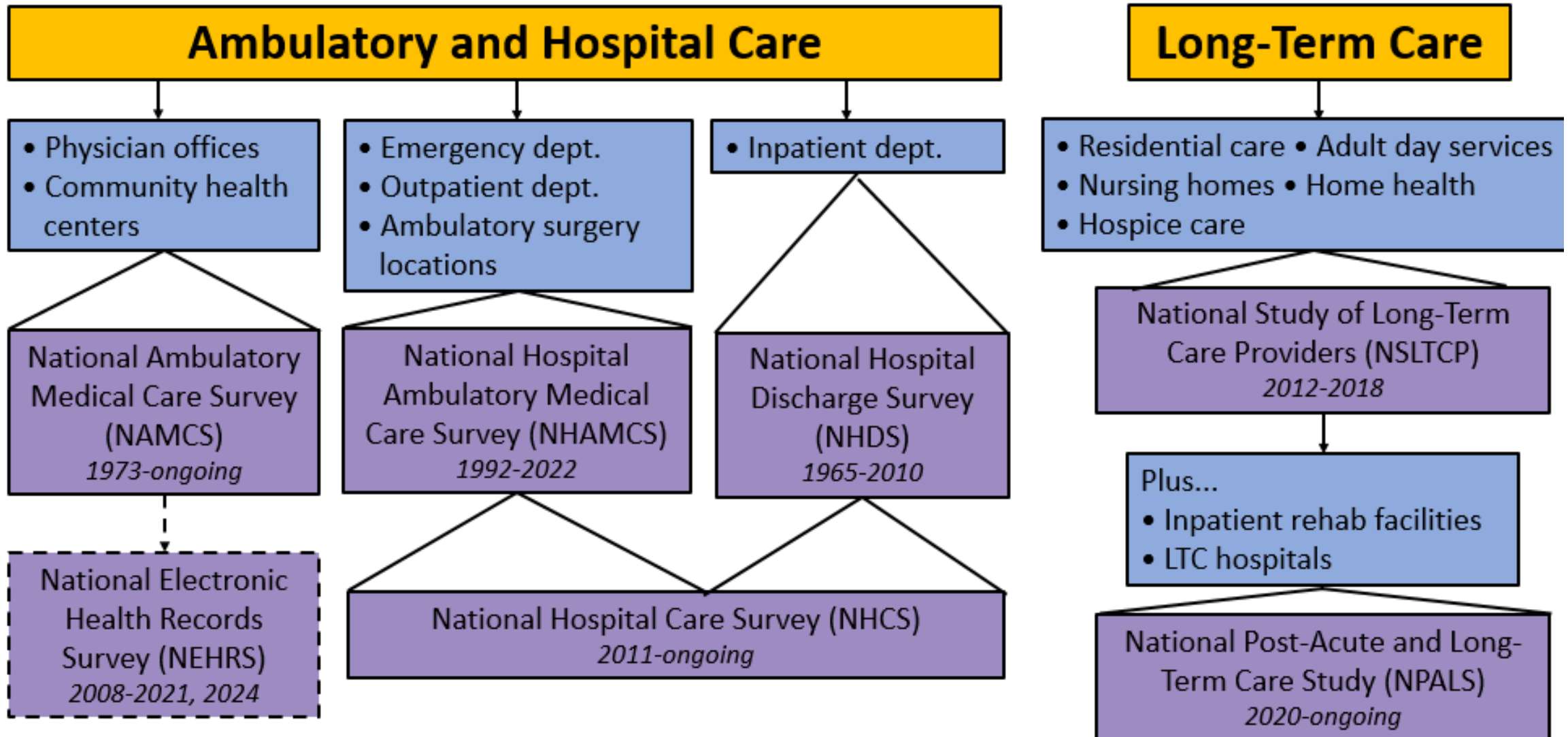




# National Health Care Surveys

- Produce accurate objective, nationally-representative statistics on health care to inform health care policy and serve a variety of research needs.
- Are establishment surveys, not household surveys.
- Provide estimates about the universe of encounters with providers, not the population.
- Historically, patient-level data largely abstracted from medical or administrative data.
- Include health care provider surveys to understand this population's experience providing care.

# National Health Care Surveys Spectrum of Care



# Changing Health Care Systems

- Settings where ambulatory care is provided have changed
- Electronic health record adoption
- Data security and confidentiality
- Increased mandatory reporting requirements
- Increase in use of telemedicine and e-health

# National Hospital Ambulatory Medical Care Survey (NHAMCS)





# National Hospital Ambulatory Medical Care Survey (NHAMCS)

- **Purpose:** Collect data on the utilization and provision of ambulatory care services in hospital emergency departments (EDs), outpatient departments, and ambulatory surgery locations. Beginning in 2018, only ED data are collected.
- **Sample:** Noninstitutional, general and short-stay hospitals located in the 50 U.S. states and the District of Columbia, excluding Federal, institutional, military, and VA hospitals. Hospitals must have 6+ staffed inpatient beds and an EDs must be open 24/7.
- **Mode:** In-person data collection; CAPI for facility interviews, computer-assisted manual abstraction of medical records; remote abstraction can be utilized.
- **Questionnaire:** Hospital and emergency service area interviews collect data about hospital and ED characteristics.
- **Data collection:** Annually (4-week reporting period); public and restricted use files.
- **Linkage capability:** None.

# NHAMCS Data Elements Collected for Hospital Ambulatory Visits

## Patients

- Demographics
- Insurance status
- Residential Zip
- Medical Conditions

## Encounters

- Reason for Visit
- Diagnosis
- Procedures and services
- Medications or immunizations
- Injuries
- Triage
- Disposition

# NHAMCS: Available Data Files and Products

- **Data files:**

- Public-use data files for ED visits are available for 1992-2020
- 2021 data file is currently in process

- **Publications:**

- NCHS reports
- Peer-reviewed journal articles
- Official government reports

- **Web tables:**

- Available for the years 2007-2019
- 2020 web tables are in progress

The collage includes the cover of the 2021 National Healthcare Quality and Disparities Report, a report titled 'Emergency Department Visits by Adults with Severe COVID-19 Associated Conditions' from National Health Statistics, and the CDC logo.

National Hospital Ambulatory Medical Care Survey: 2019 Emergency Department Summary

**Table 5. Mode of arrival at emergency department, by patient age: United States, 2019**

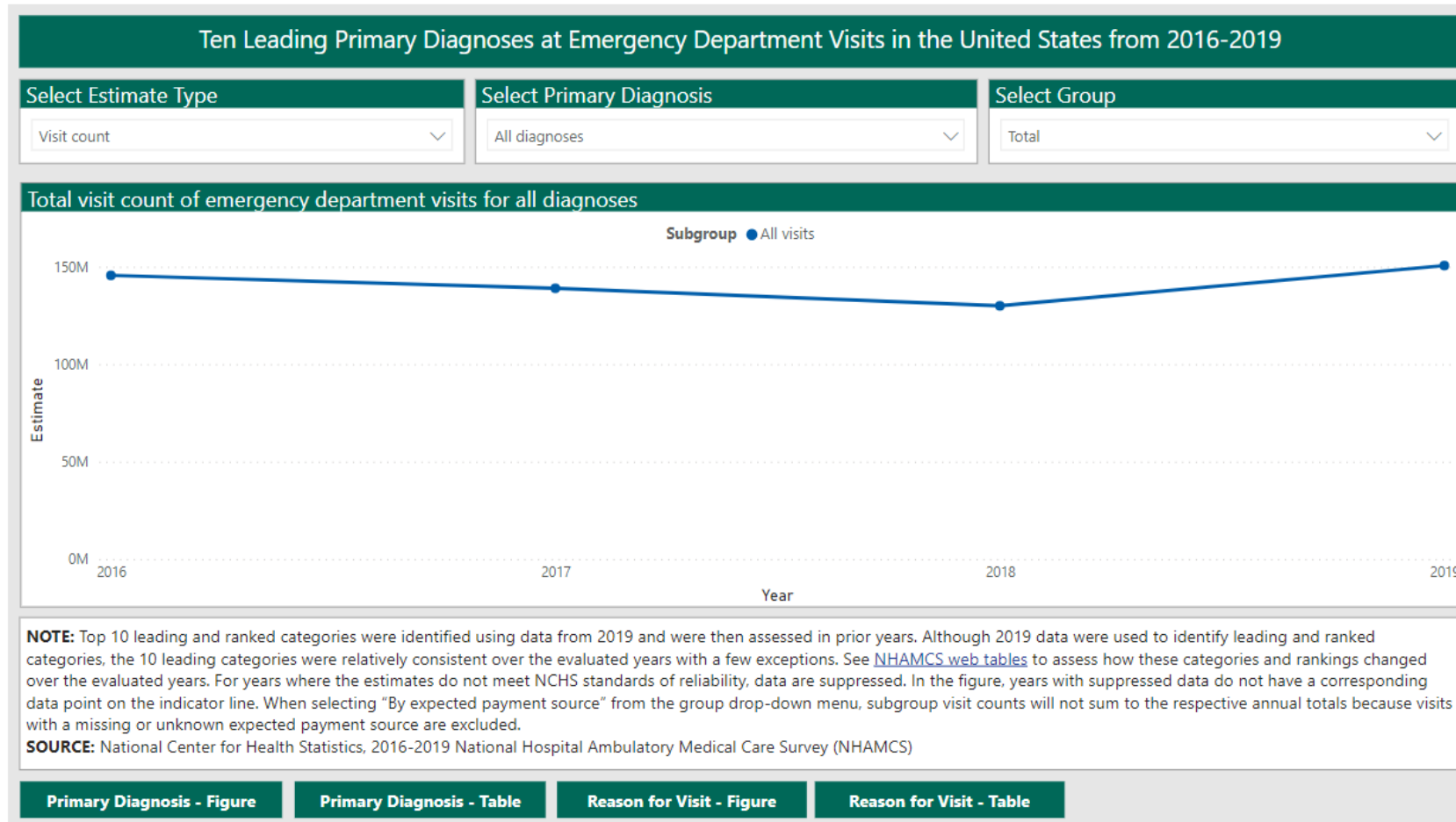
Age group (years)	Number of visits in thousands	Patient		Percent distribution (standard error)	
		Total <sup>1</sup>	Ambulance		
All visits	150,650	100.0	15.5 (0.7)	82.1 (0.8)	2.4 (0.5)
Under 15	30,003	100.0	4.5 (0.5)	93.9 (0.6)	1.6 (0.3)
Under 1	4,670	100.0	4.8 (1.2)	93.2 (1.2)	...
1-4	10,859	100.0	2.4 (0.5)	96.1 (0.7)	...
5-14	14,474	100.0	5.9 (0.9)	92.5 (0.9)	1.6 (0.5)
15-24	19,940	100.0	11.2 (0.7)	86.7 (0.8)	2.1 (0.5)
25-44	39,477	100.0	11.9 (0.8)	86.1 (1.0)	2.0 (0.5)
45-64	33,582	100.0	19.2 (1.1)	78.1 (1.2)	2.7 (0.7)
65 and over	27,748	100.0	31.1 (1.2)	65.4 (1.2)	3.5 (0.9)
65-74	13,462	100.0	23.5 (1.5)	73.1 (1.6)	3.5 (0.9)
75 and over	14,286	100.0	38.3 (1.8)	58.1 (1.6)	3.6 (1.1)

<sup>1</sup> Estimate does not meet National Center for Health Statistics standards of reliability. Visit estimates are not presented if they are based on fewer than 30 cases in the sample data; only an asterisk is shown. Visit estimates based on 30 cases or more include an asterisk if the relative standard error of the estimate exceeds 20%. Proportion estimates are not presented if they are unreliable based on the procedure specified in "National Center for Health Statistics Data Presentation Standards for Proportions" (available from: [https://www.cdc.gov/nchs/data/series/s\\_22/sr22\\_175.pdf](https://www.cdc.gov/nchs/data/series/s_22/sr22_175.pdf)), in which case only an asterisk is shown.

NOTE: Numbers may not add to totals because of rounding.

SOURCE: National Center for Health Statistics, National Hospital Ambulatory Medical Care Survey, 2019.

# NHAMCS Online Dashboard: *Estimates of Emergency Department visits in the United States, 2016-2019*



<https://www.cdc.gov/nchs/dhcs/ed-visits/index.htm>

# NHAMCS: Challenges to Fielding and Operations

- Using manual, in-person data collection presents several challenges:
  - Increased competition with other hospital data collections/reporting systems
  - Increased security and legal concerns
  - Decreasing response rates
  - Increased cost of operations
  - COVID-19 and challenges of in-person data collection
  - Timeliness of data collection and preparation
  - Lack of PII and no data linkage capability

# Upcoming Changes to NHAMCS



# NHAMCS: End of Fielding

- After 30 years of fielding, NHAMCS data collection will cease
  - 2022 will be the final year of NHAMCS data collection
  - Fielding of 2022 scheduled to end in spring/summer 2023
  - The National Hospital Care Survey (NHCS) collects data on ED visits and will be used to provide national estimates of ED visits, after 2022.
  
- Plan to convey the change via:
  - NHAMCS Website
  - NAMCS/NHAMCS Monthly Newsletter
  - Friends of NCHS Newsletter
  - Email/phone calls sent to regular/reoccurring NHAMCS data users

# NHAMCS: Schedule for Remaining Data Releases

## ■ 2021 NHAMCS

- Data collection finished/processing underway
- PUF - anticipated release in summer 2023

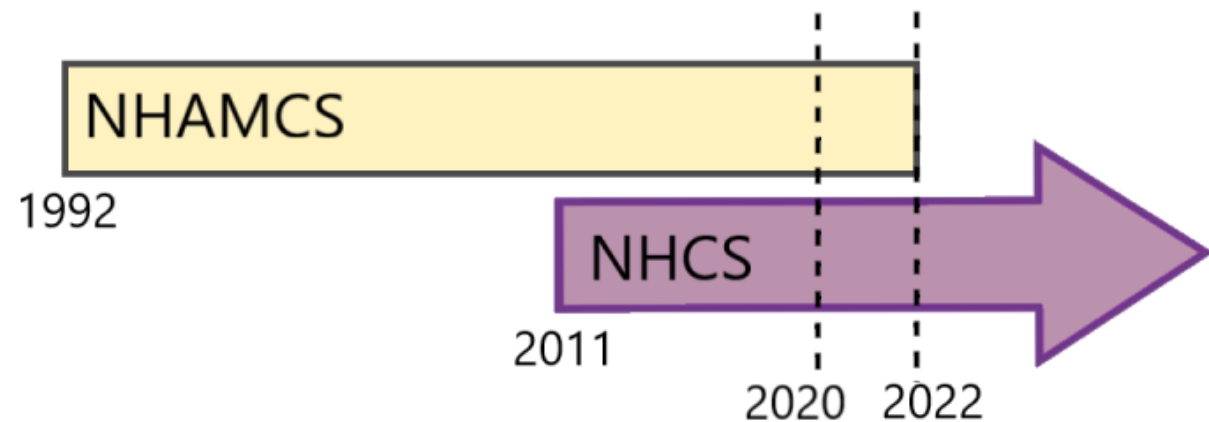
## ■ 2022 NHAMCS

- Data collection ongoing through spring/summer 2023
- PUF – anticipated release in summer 2024



# NHAMCS and Transition to the National Hospital Care Survey (NHCS)

- Beginning in 2023, the NHCS will be the sole source of hospital data collected by NCHS.
  - NHCS uses electronic health care data to collect all annual visits from inpatient departments and EDs.
  - Collection of PII allows for data linkage to external sources.
  - Currently DHCS and DRM are working with NORC to use modeling to develop nationally representative weights for the 2020 NHCS.
- Three years of overlap between NHAMCS and NHCS will allow for a comparison of ED estimates.



# Thank you...

- To the numerous NCHS staff who worked on the planning, operations, and dissemination of the NHAMCS data over the years.
- To the U.S. Census Headquarters and Regional Office staff who managed the NHAMCS data collections.
- To the countless Census Field Representatives who have diligently collected and cared for the NHAMCS data for 30 years.

# **National Ambulatory Medical Care Survey (NAMCS) – Physician/Provider Component**



# National Ambulatory Medical Care Survey (NAMCS) – Traditional Physician Survey (1973-2021)

- **Purpose:** Designed to meet the need for objective, reliable information about the provision and use of ambulatory medical care services in the United States.
- **Sample:** Physicians classified by the AMA/AOA and physician; not federally employed and not in the specialties of anesthesiology, radiology or pathology.
- **Mode:** In-person data collection; CAPI for physician interviews, computer-assisted manual abstraction of medical records; remote abstraction can be utilized.
- **Questionnaire:** Obtains data about characteristics of the physician and practice, EHR use/adoption.
- **Data collection:** Annually from 1989-2021 (1-week reporting period), public and restricted use files. No visit data collected in 2020-2021. Not fielded in 2022.
- **Sample size:** Most recently - 3,000 physicians.
- **Linkage capability:** None.

# NAMCS Data Elements Collected for Physician Ambulatory Visits

## Patients

- Demographics
- Insurance status
- Residential Zip
- Medical Conditions
- Smoking history

## Encounters

- Reason for Visit
- Diagnosis
- Procedures and services
- Medications or immunizations
- Laboratory and other diagnostic tests
- Types of providers seen

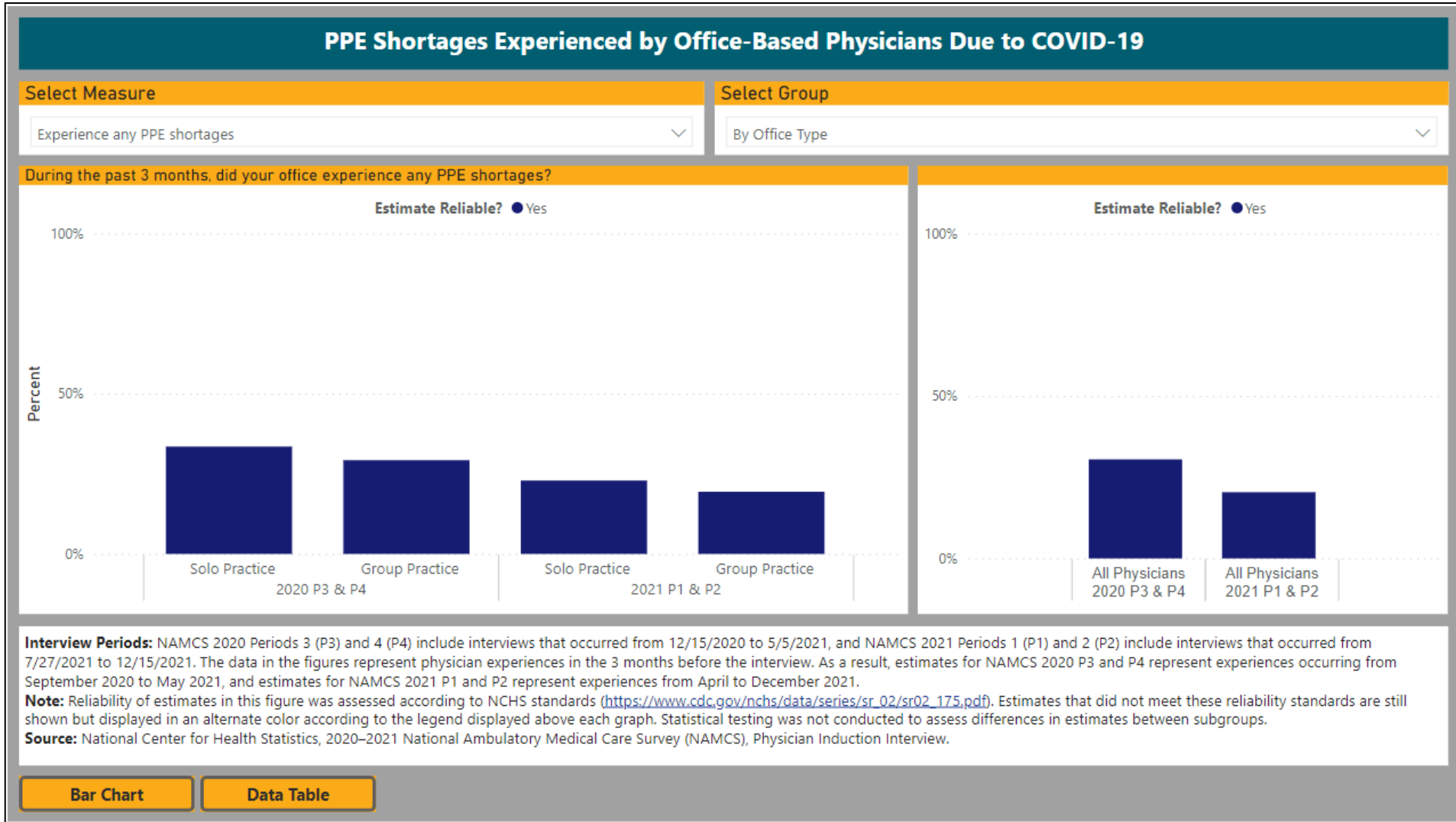


# NAMCS Online Dashboard:

## *Physician Experiences Related to COVID-19*

- Online, interactive dashboard using preliminary NAMCS physician data to examine physician experiences during the COVID-19 pandemic
  - First time preliminary estimates on NAMCS have been released
- Includes 2020 P3/P4 and 2021 P1/P2 data
- Topics include:
  - Shortages of Personal Protective Equipment (PPE)
  - Experiences Related to COVID-19 at Physician Offices
  - Physician Telemedicine or Telehealth Technology Use
- Ability to stratify by various physician characteristics
  - Specialty, office type, owner type, MSA
- Website: <https://www.cdc.gov/nchs/covid19/namcs.htm>

# NAMCS Online Dashboard (cont.): Physician Experiences Related to COVID-19





# NAMCS: Challenges to Fielding and Operations

- Using manual, in-person data collection presents several challenges
- COVID-19 created additional challenges
- Settings where ambulatory care is provided have changed
- Systems used to provide ambulatory care have also changed

# Update on NAMCS – Physician/Provider Component



# National Ambulatory Medical Care Survey (NAMCS) – Provider Component

- **Purpose:** Designed to meet the need for objective, reliable information about the provision and use of ambulatory medical care services in the United States.
- **Sample:** Physicians classified by the AMA/AOA and physician assistants/associates classified by the AAPA as providing office-based care; not federally employed and not in the specialties of radiology or pathology.
- **Mode:** Mixed-mode (web and mail), self-administered survey collected by the U.S. Census Bureau, with tracing performed to increase accuracy of contact information.
- **Questionnaire:** Obtains data about characteristics of the physician and practice, as well as relevant/timely topics such as telemedicine, CLAS standards, knowledge of opioid guidelines (physicians), and autonomy (PAs).
- **Data collection:** No data collected in 2022. Provider data only collected in early/mid 2023, public and restricted use files.
- **Sample size:** 5,000 physicians, 5,000 physician assistants/associates.
- **Linkage capability:** None.

# NAMCS – Provider Component: Changes Underway

- In 2023, numerous changes will occur:
  - Pilot a mixed mode (web and mail) provider survey conducted by U.S. Census Bureau
  - Scope will be expanded to include physicians and PAs
  - Potential for additional advanced practice providers in the future
  - No visit data collection will be included for 2023
- Survey content to include more timely/relevant topics such as:
  - Provider and practice characteristics
  - Telemedicine
  - CLAS standards
  - Knowledge of opioid guidelines (physicians)
  - Autonomy (PAs)

# NAMCS – Provider Component: Future Plans

- **Continue fielding the Provider Interview**
  - Pending a successful 2023 pilot, continue fielding this component in the future, looking to expand the sample and allow for more flexibility with questions.
- **Reinstating collection of ambulatory care visits made to providers**
  - Developmental work is underway with RTI International in determining the feasibility of drawing a nationally representative sample of provider groups.
  - Exploring how to leverage EHR submission to collect annual visits from provider groups.
- **Fast Healthcare Interoperability Resources (FHIR): HL7 Health Care Surveys Content Implementation Guide (IG)**
  - Highly aligned with the United States Core Data for Interoperability (USCDI) standard.
  - This content IG uses the technical infrastructure of the HL7 MedMorph Reference Architecture IG, most notably the MedMorph app, which is also used in CDC elsewhere.

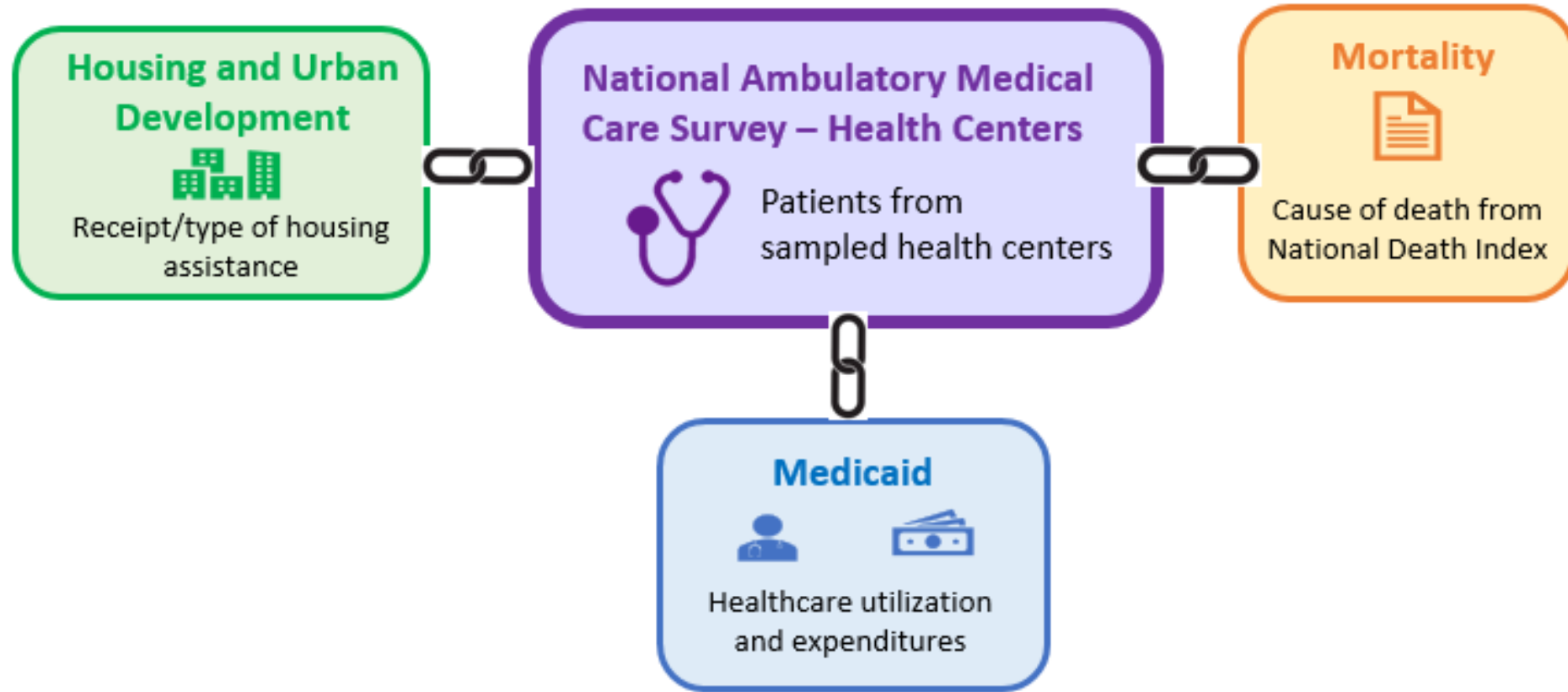
# **National Ambulatory Medical Care Survey (NAMCS) – Health Center Component**



# National Ambulatory Medical Care Survey (NAMCS) – Health Center Component

- **Purpose:** Designed to meet the need for objective, reliable information about the provision and use of ambulatory medical care services in the United States.
- **Sample:** Federally qualified health centers (FQHCs) and FQHC look-alikes as classified by the Health Resources and Services Administration (HRSA).
- **Mode:** Electronic health record (EHR) data transmitted electronically to NCHS or its data collection agent.
- **Questionnaire:** Facility Interview collects HC information needed for statistical weighting.
- **Data collection:** January-December annually, restricted-use files (public use files if feasible).
- **Sample size:** 50 HCs in 2021; +50 HCs in 2022 (total of up to 100); +50 HCs in 2023 (total of up to 150).
- **Linkage capability:** PII collected that could allow linkage to other data sources.

# Linkage of NAMCS Health Center Data: Proposed/Planned





# NAMCS - Health Center Component: Redesigned Participant Site

Welcome to the  
National Ambulatory Medical Care  
Survey (NAMCS) Health Center  
Component

Your participation makes a difference!



Equitable Health Care Delivery Begins With You



# Thank you!



For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)