

Redesign of the National Sample Survey of Registered Nurses (NSSRN)

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Outline

- **Brief History**
- **2018 Survey Redesign**
- **Questionnaire Expansion**
- **Sampling Frame Construction**
- **Complex Sample Design**
- **Data Collection Method**
- **Data Dissemination**



NSSRN History

- **Conducted by HRSA approximately every 4 years from 1977-2008**
 - 2012 National Sample Survey of Nurse Practitioners (NSSNP)
- **Mandate for NSSRN originally found in the Public Health Service Act**
- **Provide quality data for the nursing profession to support research and planning of the future workforce needs**
- **Topics include**
 - Education and training in nursing
 - Current and past nursing workforce participation
 - Income and Demographic characteristics
 - Professional nursing certifications, and
 - States in which they hold current licenses



2018 Survey Redesign

- **Collects data on new delivery systems, health reform, and the National Practitioner Data Bank**
- **Improves sampling frame by matching to Census administrative data**
- **Combines NSSRN with National Sample Survey of Nurse Practitioners (NSSNP)**
 - Expands questionnaire
 - Enlarges overall sample size and oversamples NPs
- **Selects representative sample at the state and national levels for Nurse Practitioners (NP), along with Registered Nurses (RN)**



Questionnaire

New Question Items

- 2008 NSSRN and 2012 NSSNP questions
- Questions about the impact of health reform
- Items suggested by stakeholders, e.g. leading nursing organizations and top researchers
- **Workforce issues related to new delivery systems**
 - Telehealth,
 - Electronic Health Record, and
 - Team-based care, etc.



Questionnaire

Best practices in questionnaire design

- **Questionnaire redesign**

- Subject experts – nursing leaders, researchers, and NCHWA
 - Refresh content with up-to-date issues
- Census survey experts and
 - Reduce response burden
 - Optimize appearance, question wordings, drop down list and skip patterns

- **Cognitive testing**

- **Review by external experts/stakeholders**

- **Usability testing**



An Example of Design of 2018 Questionnaire

2008

23. Which one of the following best describes the employment setting of the principal nursing position you held on March 10, 2008? *Mark one box only.*

Hospital (including all types of care at a hospital location).

- Community hospital or medical center, Non-Federal, short stay
- Inpatient unit
- Nursing home unit in hospital
- Outpatient clinic/medical practice owned by a hospital
- Outpatient clinic/medical practice located at a hospital but not owned by the hospital
- Other administrative or functional area

Specialty hospital, Non-Federal (children's, heart, burns, cancer)

- Inpatient unit
- Outpatient clinic/medical practice owned by a hospital
- Outpatient clinic/medical practice located at a hospital but not owned by the hospital
- Other administrative or functional area

Long-term hospital, Non-psychiatric, Non-Federal

- Inpatient unit
- Nursing home unit in hospital
- Other administrative or functional area

Psychiatric hospital, Non-Federal

- Inpatient unit
- Nursing home unit in hospital
- Outpatient clinic/medical practice owned by a hospital
- Outpatient clinic/medical practice located at a hospital but not owned by the hospital
- Other administrative or functional area

Federal Government hospital (Military, VA, NIH or IHS-supported)

- Inpatient unit
- Nursing home unit in hospital
- Outpatient clinic/medical practice located at a hospital
- Other administrative or functional area

Hospital unit in an institution (infirmary, correctional facility)

- All types
- Other Type of hospital
- Inpatient unit
- Nursing home unit in hospital
- Outpatient clinic/medical practice owned by a hospital
- Outpatient clinic/medical practice located at a hospital but not owned by the hospital
- Other administrative or functional area

Specify:

Nursing Home/Extended Care Facility

- Nursing home/extended care facility (not in a hospital)
- Facility for mentally retarded or developmentally disabled
- Residential care/assisted living facility
- Other type of extended care facility

Specify:

Home Health Setting

- Visiting nurse service (VNS/VNA)
- Home health service unit (hospital-based)
- Home health agency (non-hospital based)
- Private duty in a home setting
- Hospice
- Other home health setting

Academic Education Program

- Nursing aide and/or home health aide program
- LPN/LVN program
- Diploma program (RN)
- Associate degree RN program
- Bachelor's and/or higher degree RN program
- Associate degree RN and LPN/LVN program
- Associate degree RN and BSN program
- Other education program, not patient education

Specify:

Public or Community Health Setting

- State Health or Mental Health Agency
- City or County Health Department
- Correctional Facility (non-hospital)
- Community mental-health organization or clinic
- Substance abuse center/clinic
- Other community setting

Specify:

School Health Service

- School or school system (K-12)
- College or university
- Other school health setting

Occupational Health (Employee Health Service)

- Private industry
- Government occupational health services
- Other occupational health setting

Ambulatory Care Setting, not located in a hospital

- Medical/physician practice
- Nurse practice
- In-store or retail clinic
- Community health center
- Federal clinic (Military, VA, NIH or IHS-supported)
- Federally-supported clinic (not a community health center)
- Hospital-owned *off-site* clinic or surgery center
- Ambulatory surgical center, not hospital-owned
- Urgent care
- Dialysis center or clinic, not in a hospital
- Other ambulatory setting

Specify:

Insurance Claims/Benefits/Utilization Review

- Government insurer/benefits department, federal, state, or local
- Insurance company or other private claims/benefits/utilization review organization

Other

- Policy, planning, regulatory, or licensing agency
- Consulting organization or self-employed
- Home-based self-employment
- Telehealth, telenursing, or call center
- Pharmaceutical/medical device/medical software
- Other

Specify:

2018

B8. For the principal nursing position you held on December 31, 2016, which of the following best describes your employment situation? *Mark one box only.*

- Employed through an employment agency as a traveling nurse
- Employed through an employment agency, but not as a traveling nurse
- Employed by the organization or facility at which you were working
- Self-employed, per-diem, or working as-needed

B9. For the principal nursing position you held on December 31, 2016, did you work full-time or part-time? *Mark one box only.*

- Full-time (including full-time for an academic year)
- Part-time (including working only part of the calendar or academic year)

B10. For the principal nursing position you held on December 31, 2016, how many months did you normally work per year?

months per year

B11. Which one of the following best describes the employment setting of the principal nursing position you held on December 31, 2016? *Mark one box only.*

Hospital (not mental health)

- Inpatient
- Emergency department
- Hospital ambulatory care department (outpatient, surgery, clinic, urgent care, etc.)
- Hospital ancillary unit
- Hospital nursing home unit
- Hospital critical access
- Hospital administration
- Hospital other, *Specify:*

Other inpatient setting

- Nursing home unit NOT in hospital
- Rehabilitation facility/long-term acute care
- Inpatient mental health
- Correctional facility
- Inpatient hospice
- Other inpatient setting, *Specify:*

Clinic/Ambulatory

- Private medical practice, clinic, physician office, etc.
- Public clinic (Rural health center, FQHC, Indian Health Service, Tribal Clinic, etc.)
- School health service (K-12 or college)
- Outpatient mental health/substance abuse
- Urgent care (not hospital based)
- Ambulatory surgery center (free standing)
- Nurse managed health center
- Other, *Specify:*

Other types of setting

- Occupational health or employee health service
- Public health or community health agency (not a clinic)
- Government agency other than public/community health or correctional facility
- Outpatient dialysis center
- University or college academic department
- Home health agency/service
- Case management/disease management
- Call center/telenursing center
- Other, *Specify:*



Sampling Frame

- **Target population - currently actively licensed RNs**
 - Complete list in the U.S. does not yet exist
- **Frame construction from state licensure board listings**
 - National Council of State Boards of Nursing (NCSBN)
 - Individual state licensure boards

Sampling Frame

RN records from NCSBN/States

All RNs actively licensed to practice from each state including:

Advanced Practice Nurses

Nurse Practitioners

Certified Nurse Midwives

Certified Registered Nurse Anesthetists

Clinical Nurse Specialist

Nurses recently licensed in a state either through endorsement or examination

Nurses who have recently had their licenses reinstated



Sampling Frame

Variables Requested from NCSBN/States

What to include:	Why we need this information:
RN licensure information Indication of Advanced Practice NCSBN ID	Reconcile licensure status reported by the state and RN. Determine for nurses registered in multiple states which state they should be listed.
Name Address Email Telephone number	Contact information
Social Security Number	Identify nurses who may be registered in more than one state under slightly different names.
Date of birth Gender Race Ethnicity NSCBN sample flag	Aid in sampling and file cleaning.



Sampling Frame

Frame Improvement

- **Critics on estimated demographic distribution, i.e. race/ethnicity and age, based on previous NSSRN**
- **Matching to Census administrative records**
 - “Administrative records” are files from IRS, HUD, Selective Service System (SSS), Indian Health Service (IHS), Medicare Enrollment (MEDB), and commercial data from various sources
 - Probabilistic linking to a reference file
 - The Census' Master Address File
 - Person Identification Validation System
- **Improvements to the NSSRN frame**
 - Filling in missing demographic information, e.g. race
 - Identifying multiple-state license holders



Sample Design

- **Stratified systematic random sample**
- **Enlarged sample size (from 55,000 to 100,000)**
- **Response rate decreased from 60% in 2008 to about 50% in 2018**
- **Representative sample at the state level - minimum sample size for RNs and NPs**
- **Anticipated sampling hurdles**
 - Small NP population in small states
 - Nurse Licensure Compacts
 - RN licensed in multiple states
 - High degree of interstate commuting
 - Federal facility employment



Data Collection

- **Mixed mode**

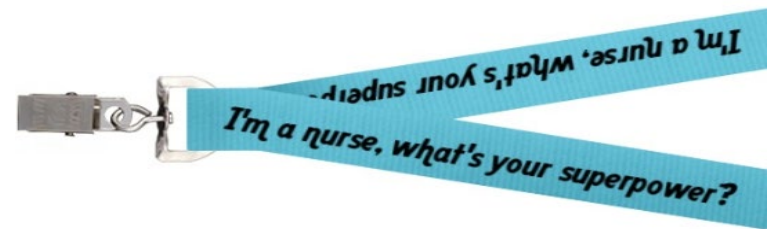
- Contact by mail
- Respond by mail or on-line
- Experiment

- **Incentive**

- Subsample of respondents will receive a lanyard and pen

- **Materials**

- Infographics
- Targeted paper mailings
- Tabbed postcard reminders
- Pressure sealed and manila envelopes



Data Processing

- **Comprehensive editing**
 - Legitimate responses
 - Range, consistency, and backfill edits
 - Backcoding open ended questions
 - Derived variables
- **Missing data treatment**
 - Imputation – hot deck method
 - Weighting
 - Base weight
 - Nonresponse Adjustment
 - Raking
 - Replicate weights



Correction for Estimation Bias

- **Differential nonresponse rates by demographics**
 - Nonresponse weight adjustment
- **Time Gap between frame construction and interview**
 - Raking to benchmark to frame distribution

Data Collection/Processing/Dissemination

Schedule

- **Collection: April to October of 2018**
 - Included up to 8 mailings
- **Data Processing: expected by mid 2019**
- **Dissemination:**
 - Timeline: second half of 2019
 - Public Access
 - PUF data files (state file and county file)
 - A codebook
 - A methodology report
 - A findings report
 - Access to restricted use file
 - Hosted by the Census Bureau
 - Special Sworn Status



Contact Information

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