National Nursing Workforce Minimum Datasets: Demand

Rationale for Selection and Measurement of Minimum Dataset Items

Prior to development of this draft, the National Forum of State Nursing Workforce Centers requested Nurse Demand/Employer Survey instruments from all Forum subscriber states as well as non-subscriber states participating in the 2008 Education Capacity Summit hosted by AARP's Center to Champion Nursing in America. The instruments were compiled into a spreadsheet showing the number of states collecting data on each variable along with their method of measurement. Using the spreadsheet, a survey was developed that identified the items collected and asked respondents to rate the importance of each for 1) demand forecasting and 2) policy issues. The survey was fielded to each Forum subscriber and/or Education Capacity state.

The Minimum Nurse Demand Dataset Drafting Workgroup reviewed data collection strategies reported in the scientific literature, the spreadsheet, and survey results to identify the most critical items for the minimum dataset and the appropriate measurement approach for each.

Two primary publications have studied and provided recommendations on measuring nursing workforce data at the state level. The most recent (Unruh, Russo, Jiang and Stocks, 2009) studied 25 states which currently collect statewide nurse staffing data from hospitals. Their study suggests that currently there is wide diversity in data available and determined that in order to form a national database of state-level hospital data several criteria must be met (p.71):
1. The data are available, complete and usable:
    *   Hospital staffing data are collected by a statewide organization.
    *   The organization is willing to make data available.
    *   The data are relatively complete (i.e. 80% or more of the hospitals are reporting data)
    *   Hospital identifiers exist (sometimes used for linking to other data).
2. The data have a sufficient quality and their content can be specified:
    *   Staffing categories separate the types of nurses and include at least RNs and LPNs or LVNs.
    *   Staffing categories are in FTE, or hours, or are capable of being converted to FTEs or hours (i.e. part-time and full-time positions or hours are specified).
    *   Areas of work are delineated (e.g. inpatient, outpatient, both together, both separate).
    *   The unit of measurement is defined (i.e. hospital wide or unit level).
    *   The data collection time frame is clear (e.g. yearly, quarterly, monthly).
    *   If non staff nurse roles are included in the RN category, they are identified.

The second study by Reinier, Palumbo, McIntosh, Rambur, Kolodinsky, Hurowitz, and Ashikaga (2005) examined the definition of commonly used measures of nurse staffing including vacancy and turnover rates, resulting in the development and pilot testing of a survey instrument in Vermont. Among several possible definitions of vacancy rate, they suggest the use of "position vacancy rate" – defined as the total number of vacant FTEs divided by the total vacant FTEs +

Total filled FTEs X 100 (originally from ICONS, 1993 & Grumbach et al., 2001). This measurement more accurately reflects FTE hiring patterns. For turnover rate, the study recommends using numbers of workers rather than FTEs. The study also suggests that subjective ratings of need are valuable additions to data collection.

Instructions for Collecting the Minimum Dataset

This document is intended to guide states in assembling the standardized nurse demand dataset recommended by the National Forum of State Nursing Workforce Centers. This dataset is designed to collect demand variables at a certain point in time and is not designed to project demand. Words written in **RED** are defined in the glossary accompanying this dataset.

Facilities surveyed should include **acute care hospitals** (including inpatient and emergency room), **long term care/nursing facilities**, **public health**, and **Medicare/Medicaid certified home health care agencies**. As applicable, facilities should be asked to respond for inpatient versus ambulatory separately. The minimum data set should include measures of **Nursing Assistants** (CNAs/LNA), **Licensed Practical/Vocational Nurses** (LPN/LVNs), **Registered Nurses** (RN), and **Advanced Practice Nurses** (APNs) for each variable. States can add additional subcategories as they see fit, so long as the counts can be collapsed back into the above categories for submission to the national database.

Because states vary in size and in their capacity to collect data on the entire population of health care facilities, a standardized sampling methodology (to be developed) should be used across states for selection of records to submit to the national nurse demand database. This sampling methodology can be modeled after existing Department of Labor sampling designs and should reflect variation in urban and rural areas and geographic variation across the United States. States collecting data from every facility (the population) will be asked to draw a sample of all records.

Ideally, the minimum demand dataset would be collected biennially. States may vary in their ability to conduct a survey of all facility types within the same year. In these cases, a rolling survey schedule (in which some facility types are surveyed one year and others the next year) is an appropriate solution. States should provide respondents with the census data and the one year time frame for respondents to use as appropriate for their state and their data collection time frame.

Variable List

Variable Group 1: Full-Time Equivalent Positions (**FTEs**) Currently Occupied
Time Frame: as of the **survey's census date**
Notes: do not include traveling nurses, collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Variable Group 2: FTE Vacancies Currently Being Recruited/On Hold (Frozen)
Time Frame: as of the **survey's census date**
Notes: do not include traveling nurses, collect separately for each type of nursing personnel
Nurse Types:LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Variable Group 3: Average Full-Time Workers Employed
Time Frame: one-year time frame defined by states (e.g., calendar year, fiscal year)
Notes: provide a head count, collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Variable Group 4: Average **Part-Time** Workers Employed
Time Frame: one-year time frame defined by states (e.g., calendar year, fiscal year)
Notes: provide a head count, collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM
Subquestion: What is the maximum hours per week that is considered part-time in your organization?

Variable Group 5: Per Diem Workers Employed
Time Frame: as of the **survey's census date**
Notes: provide a head count, collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Variable Group 6: Contract, Agency, and Traveling **FTEs** Employed
Time Frame: as of the **survey's census date**
Notes: collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Variable Group 7: Workers Leaving Your Organization (**Separations**)
Time Frame: one-year time frame defined by states (e.g., calendar year, fiscal year)
Notes: provide a head count, collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Variable Group 8: Number of **FTEs** the Organization **Intends to Employ** in One Year
Time Frame: one year from **survey's census date**
Notes: collect separately for each type of nursing personnel
Nurse Types: LNA/CNA, LPN/LVN, RN, NP, CRNA, CNS, CNM

Glossary of Operational Definitions

Acute Care Hospitals – Short-term federal, state, or private hospitals, including inpatient and all outpatient (e.g., Emergency Department) units.

Full-time Equivalent Positions (FTEs) – A count of positions including both full-time and part-time employees which can be computed in two ways:

1. Add total FTEs. For example, if there are 5 full-time RNs (1.0 FTE each), 3 half-time RNs (0.5 FTE each), and one quarter-time Staff RN (0.25 FTE), the total FTEs for RNs = 5.0 + 1.5 + 0.25 = 6.75.

2. Divide the total hours worked in a week for that job type by the number of hours in a standard work week. For example, if there are 270 RN hours worked in your hospital in a week, and an FTE at your institution is 40 hours, RNs = 6.75 FTEs (270 hours / 40 hours).

Intends to Employ – A projection of the number of employees the facility is expected to employ one or two years from the survey census date. The number may be higher (growth projection), the same, or lower than those reported as of the census date.

Licensed Practical/Vocational Nurse (LPN/LVN) - An individual who holds a current license to practice as a practical or vocational nurse in at least one jurisdiction of the United States. [1]

Long Term Care / Nursing Facilities – Inpatient facilities offering long-term skilled nursing services.

Medicare/Medicaid Certified Home Health Care Agencies – Agencies providing nursing personnel for care within the patient's homes. We recommend limiting the group of agencies to those certified to receive payments from Medicare or Medicaid.

Nursing Assistants (CNAs/LNA) - individuals who assist nursing staff in the provision of basic care to clients and who work under the supervision of licensed nursing personnel. Included in, but not limited to, this category are nurse aides, nursing assistants, orderlies, attendants, personal care aides, medication technicians, unlicensed assistive personnel and home health aides.[1]

Part-time – Any position less than 1.0 FTE as defined by your institution.

Per diem – an arrangement wherein a nurse is employed directly on an as needed basisand usually has no benefits.

Public Health – Official state, city, or county health and mental health departments.

Registered Nurse (RN) - An individual who holds a current license to practice within the scope of professional nursing in at least one jurisdiction of the United States. Includes diploma RNs, ADNs and BSNs. [1]

Separations – The number of people (head count) who left your organization in the specified time frame. Include voluntary and involuntary terminations or separations. Do <u>not</u> count per diem workers, contract/temporary labor, students in training, travelers or separations due to illness or death in the termination or separation numbers. Do not include within-organization transfers.

Survey Census Date – The date facilities should use for reporting counts of employees, FTEs, or vacant FTEs. States may select a census date that best fits the budgeting schedule of facilities, the survey schedule, or government budget cycles.

[1]Source: "Definitions" Interagency Collaborative on Nursing Statistics (ICONS)
http://www.iconsdata.org/definitions.htm

Suggested Additional Variables

In addition to those items in the minimum data set, several other variables may be useful for individual states depending on their data collection needs. We suggest the following:

- Turnover of new graduates
- Hiring freezes or layoffs during the last year
- RN education mix
- Recruitment/retention strategies
- Foreign recruitment
- Time to fill vacant positions – typically collected by position type and clinical specialty (e.g., nurse supervisors, critical care staff nurses, etc.)
- Perceived recruiting difficulty – typically on Likert scale and collected by position type and clinical specialty
- Nursing budget expenditures for recruiting
- Nursing budget expenditures for temporary staffing
- Nursing budget expenditures for overtime
- Impact of nursing shortage on facility
- Perception of the nursing shortage / staffing adequacy at facility
- Opinion on Actual Need
- Number of FTEs the Organization Intends to Employ in Two Years

References

Grumbach, K., M. Ash, J. Seago, J. Spats, and J. Coffman. (2001). Measuring shortages of hospital nurses:Howdo you know a hospital with a nursing shortage when you see one? *Medical Care Research and Review*, 58(4): 387-403.

Interagency Conference on Nursing Statistics. 1993. *Research on nursing resources: Definitions and calculations*. Washington, DC: American Association of Colleges of Nursing.

Reinier, K., Palumbo, M.V., McIntosh, B., Rambur, B., Kolodinsky, J., Hurowitz, L., and T. Ashikaga. (2005). Measuring the nursing workforce: clarifying the definitions. *Medical Care Research and Review*, 62(6): 741-755.

Unruh, L., Russo, C., Jiang, H., and C. Stocks. (2009). Can state databases be used to develop a national, standardized hospital nurse staffing database? *Western Journal of Nursing Research*, 31(1): 66-88.