

**To:** California Healthcare Workforce Policy Commission      **Date:** April 21, 2011

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Director

**Subject:** Determining Registered Nurse Shortage Areas

## **Background**

In February 2007, the California Healthcare Workforce Policy Commission (Commission) formally adopted staff recommendations for the creation of a Registered Nurse Shortage Area (RNSA). The method for determining the RNSA is a function of the number of licensed nurses (supply) and patient volume (demand). The previous analysis performed used 2008 data and was on a county basis. Taking into account that the Legislature (and current literature) has determined that California, as a whole, is a nursing shortage area, final designation is determined when a county (1) lacks a general acute care hospital (GAC) and a long-term care (LTC) facility and (2) is above the mean ratio of available nurses to patient volume. The ratio is the total number of bed days for GACs and LTC facilities multiplied by .08 and divided by the number of registered nurses (RNs) in the specific county. The Commission uses the RNSA as only one of many factors to determine Song-Brown funding for nursing education programs. The RNSA does not in itself determine funding or funding levels. In February 2008, the Commission stipulated that this method be reviewed annually, as opposed to every two years to provide insight into the latest science and current literature affecting the nursing workforce.

The Commission needs a quantitative, repeatable and meaningful way of ranking applications whose past graduates and training facilities operate in areas of unmet need (e.g. Song-Brown nursing shortages). The adopted RNSA, using counties as the analytical unit, serves well under this rubric. The RNSA does not in itself determine funding or funding levels, but is one of the factors used by the Commission.

## **Methodology**

Three factors are used in defining nursing shortages: (1) California counties (as the geographic unit for analysis), (2) California registered nurse data of all active

licenses by county from the Board of Registered Nursing (BRN)<sup>1</sup>, and (3) the patient day and census data from all LTCs and GACs from OSHPD.<sup>2</sup>

OSHPD maintains data on patient volume for GACs and LTCs. These data are maintained in the OSHPD Automated Licensing Information and Report Tracking System (ALIRTS) program. These locations employ nearly 70% of the total nursing workforce in California. No current data exist on patient volume for the other 30% of the workforce.

OSHPD facility census<sup>3</sup> data for 2009 were obtained by county. There are more licensed bed days in LTCs than GACs in California and LTCs only account for 5% of the registered nurse workforce.<sup>4</sup> Therefore, a scale factor representing the percent of the nursing workforce at LTCs in this function was applied to ensure the census data were not skewed.<sup>5</sup> A total census was created by summing the two numbers and a ratio was used of census divided by registered nurses for each of the 58 counties.

Ratio Equation:

$$\frac{\sum (\text{CensusDays}_{\text{GAC}} + [(\text{PatientDays}_{\text{LTC}}) * 0.08])}{\text{RNCount}}$$

Where:

CensusDays<sub>GAC</sub> is the number of days a patient is occupying a bed in General Acute Care Hospitals in 2009

PatientDays<sub>LTC</sub> is the number of days a patient is occupying a bed in Long-Term Care Facilities in 2009

RNCount is the number of licensed, active registered nurses per county in 2009

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<sup>1</sup> Source: 2009, Department of Consumer Affairs, Board of Registered Nursing, County Count Summary for Clear Licenses.

<sup>2</sup> Source: 2009, Office of Statewide Health Planning and Development, Automated Licensing Information and Report Tracking System (ALIRTS). <http://oshpd.ca.gov/alirts/index.htm>

<sup>3</sup> Census Day Totals are a measure of service delivery. This value is the sum of the number of days that a given bed was occupied by a patient. Each night healthcare facilities take a census of patients in each bed. The census is kept by bed type (Acute Respiratory Care, Burn, Coronary Care, Intensive Care, Intensive Care – Newborn Nursery, Perinatal, Pediatric, Rehabilitation Center, and Unspecified General Acute Care). The GAC Census Days are the sum of the census for each of the nine GAC bed designations. A similar number is obtained for Long-Term Care Facilities.

<sup>4</sup> 5% of the RN workforce is at LTC facilities, while 64% of the RN workforce is at GACs.

<sup>5</sup> The scale factor is 0.08. This number is the percent of the workforce at LTC facilities, in our function. It is derived from 5 (percent of nurses employed at LTC facilities) / 64 (percent of nurses employed at GACs).

### **Limitations**

This designation methodology has two limitations. First, only about 70% of the nursing workforce is accounted for in this function. The remaining 30% of the workforce is employed at schools, home health agencies, and other facilities, for which no ratio of average daily census or population served can be readily analyzed.<sup>6</sup> Second, nurses and patients both travel outside county boundaries to give and receive care. However, we are unable to obtain data on commute patterns by occupation at this time due to confidentiality constraints regarding the release of healthcare providers' Social Security Numbers. Other methodological approaches were explored by OSHPD staff and were indicated in a separate report on March 9, 2009, "Registered Nurse Shortage Area Alternative Methodologies."

### **Recommendation**

Since the development and implementation of the current RNSA methodology, there has not been a formal method of measuring the nursing shortage. **Staff recommends the continued use of the current methodology using the county mean as the analytical unit.**

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<sup>6</sup> CA Workforce Initiative, Center for Health Professions, UCSF. 2001. *Nursing in CA: A Workforce Crisis*.