

California Nurse Staffing Law and RN Workforce Changes

EXECUTIVE SUMMARY

- ▶ The minimum nurse-patient staffing legislation in California was fully implemented in 2004.
- ▶ The purpose of this study was to explore the effects on the minimum nurse-patient staffing legislation on the demographic, human capital, and work characteristics of the working RN population, focusing specifically on direct care nurses in the acute care setting.
- ▶ The most interesting finding of this study was an increase in nurse satisfaction after the minimum staffing law was implemented.
- ▶ Findings also suggest that work environments need to change to accommodate the changes that have occurred in the nurse population.
- ▶ Nurses should practice to the full extent of their education and training; nurses should be full partners in redesigning the health care system; nurse education should promote seamless academic progression; and effective workforce planning and policymaking should be conducted.
- ▶ Administrators, health policymakers, and advocates must develop job descriptions and work environments that maximize the attachment of the labor force in terms of hours worked per week of RNs for all nurses but especially for those over 50 years of age and non-Whites.

IN 1999 CALIFORNIA PASSED AB 394, the minimum nurse-patient staffing legislation and by 2004, it was fully implemented. The law requires a minimum number of licensed nurses to care for a set number of patients in acute care hospitals. The current minimum number of licensed nurses to care for medical-surgical patients is one nurse for five patients. Although the legislation does not specify the licensed nurses must be registered nurses (RN), most licensed nurses in California acute care hospitals are RNs.

The law was the result of an active California Nurses Association in response to research findings (Aiken, Smith, & Lake, 1994; Aiken, Sochalski, & Anderson, 1996) and Institute of Medicine (IOM) reports (1999, 2001) that pointed to overworked health care personnel practicing in unsafe work environments. Those who opposed the law suggested it would significantly increase hospital costs and decrease staffing flexibility

(Buerhaus, Donelan, DesRoches, & Hess, 2009). Those who supported it suggested that it would improve patient safety and patient outcomes (Aiken, Xue, Clarke, & Sloane, 2007) while increasing nurse satisfaction (Aiken et al., 2010; Seago, Spetz, Ash, Herrera, & Keane, 2011; Spetz, 2008; Spetz & Herrera, 2010).

The Affordable Care Act signed by President Obama in 2010 is expected to bring millions of new patients into the health care system. This influx of previously uninsured individuals and the aging of the general population, combined with the aging of the nurse population, put tremendous pressure on hospitals to add beds. It is critical this increase in capacity is accompanied by an increase hiring of bachelor's-prepared nurses (IOM, 2010).

Understanding whether the minimum staffing requirements have made hospitals better work environments is valuable given that nurse satisfaction with work

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environment is thought to be linked to intention to stay (retention). The purpose of this study was to explore the effects on the minimum nurse-patient staffing legislation on the demographic, human capital, and work characteristics of the working RN population, focusing specifically on direct care nurses in the acute care setting. Direct care nurses were the target of the law, were impacted by the law, and were the individuals most able to respond at the margin (incrementally) to the regulatory changes taking place in this health care work environment. Characteristics and changes in this group of California RNs before and after the implementation of the law, between 1997 and 2008, are also described.

Framework

Labor economics theory suggests that in order to attract workers and increase their productivity, employers are required to offer rewards for the workers' time away from family or leisure activities (Hamermesh, 1993). Pecuniary rewards are wages, bonuses, and benefits, while non-pecuniary incentives vary widely, from professional status, personal pride, and satisfaction with an array of characteristics of the work environment (Heckman, 1999). The effect of each of these incentives on the labor supply varies depending on the individual's demographic and personal preferences. According to this theory, workers choose where to work and how productive to be (time and effort) based on how they perceive the pecuniary and non-pecuniary incentives offered by employers (Heckman, 1999). In labor shortage areas, employers vie for workers by differentiating themselves and their incentives. Employees with greater human capital (more years of experience in the field and/or higher level of education) are thought to be more flexible and more productive, and consequently, have greater bargaining

power when negotiating with employers (Hamermesh, 1993).

Method

The design of this study was descriptive using cross-sectional data collected by the California Board of Registered Nursing (BRN) surveys of RNs. These surveys collect and evaluate nursing workforce data to facilitate the understanding of changes in the state's workforce (Fletcher, Guzley, Barnhill, & Philhour, 2004). The data were collected in 1997 (before the ratios implementation), in 2004 (at the time of the implementation), in 2006 (mid post implementation), and in 2008 (post implementation). In 1997 and 2004, the surveys were mailed to a random sample of RNs licensed in the state (Fletcher et al., 2004), while in 2006 and 2008, the random samples were stratified based on region of residence (Chapman et al., 2009; Spetz, Jacobs, & Hatler, 2007). The sample for the 4 years of the survey totaled 28,168 respondents with active and inactive licenses. The inclusion criteria for the sample for this study were (a) that nurses be female, (b) be less than 65 years old, (c) be employed in a nursing position, (d) have an active license in California, and (e) reside in the state. Males were excluded because they have been shown to have different sets of determinants of labor supply (Brewer et al., 2006). Nurses older than 65 years old were excluded because they were expected to retire soon. Those working in non-nursing positions or residing outside the state would not be impacted by the law and thus were excluded from the analyses (Black, Spetz, & Harrington, 2008).

Once the inclusion criteria were applied, two groups were created using the sample. The larger group included 8,472 (30.07% of the respondents to the 1997, 2004, 2006, and 2008 surveys) female RNs, 65 years old or younger who were residing in the state and working in any type of

nursing position at the time of the surveys. The smaller group was a subset of the larger one. It was restricted to female RNs, 65 years old or younger who were residing in the state and added the criterion of working in an acute care setting in a direct patient care position at the time of the surveys ($n=3,658$; 12.99%).

In order to describe characteristics and changes that occurred in the California RN workforce between 1997 and 2008, an array of variables were analyzed. Demographic characteristics included age, marital status, children living at home, other dependents living at home, ethnicity, and other income (non-nursing income). The human capital characteristics analyzed were level of education, location of education, and years of experience. The employment-related characteristics studied were hours worked per week, hourly wages, annual income, satisfaction with work environment, setting of employment, position held, and being employed by an agency.

Since the surveys evolved overtime, careful consideration was given to variable transformations to ensure the validity and reliability of the results (Tellez, Spetz, Seago, Harrington, & Kitchener, 2010). Analysis of variance was used to compare the means of continuous variables across the 4 years of surveys, while Pearson chi-square was used to compare the proportions of the categorical variables across the data. Analyses of the data were conducted using SPSS 17 (SPSS, Inc., Chicago, IL).

Results

The family life of the California RNs changed significantly over the years studied, although marital status has been stable, averaging approximately 69% for both groups, all working RNs, and those working in acute care direct patient care positions (see Tables 1 & 4). In 1997 over 60% of both groups had children living at

home, but that number decreased by almost 10% by 2008 (see Tables 1 & 4). In contrast, less than 10% of both groups of nurses had other dependents living at home in 1997. That proportion more than doubled, reaching over 20% by 2008. Other income also increased significantly. The average household income increased by 67% (after accounting for inflation), from a mean of \$31,222 ($SD=28,746$) in 1997 to a mean of \$52,156 ($SD=62,302$) in 2008 for all California-working RNs (see Tables 2 & 4). The change was more modest among the RNs working in acute direct patient care positions; household incomes increased from a mean of \$32,071 ($SD=29,035$) to a mean of \$46,827 ($SD=56,570$) (46.01%) (after accounting for inflation). It is noteworthy that in 1997 over 30% of nurses from both groups had other income of zero dollars per year and that proportion decreased to approximately 14% in 2008.

The California nurse population significantly aged and ethnically diversified over the years studied. Between 1997 and 2008, the average age of California RNs working in a nursing position increased by 3.2 years, from a mean of 44.35 ($SD=8.86$) to a mean of 47.55 ($SD=10.63$) years old (see Tables 2 & 4). The increase in age was less than 1 year for RNs working in acute care direct patient care positions, rising from a mean of 42.85 ($SD=8.60$) to a mean of 43.69 ($SD=11.0$) years old during the same period (see Figure 1). When age was divided into 5-year increments and analyzed as a categorical variable, a bimodal trend emerged.

Figure 1.
Mean Age of California RNs at the Time of Survey

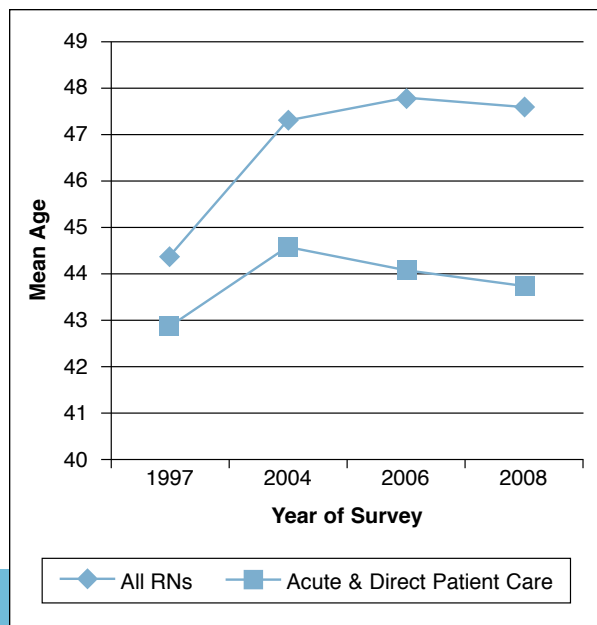


Table 1.
All RNs and Acute Direct Care RNs: Means (Std. Dev)

	All Years		1997		2004		2006		2008	
	All RNs	Acute Direct	All RNs	Acute Direct	All RNs	Acute Direct	All RNs	Acute Direct	All RNs	Acute Direct
Age	46.97 (9.90)	43.82 (10.21)	44.35 (8.86)	42.85 (8.60)	47.26 (9.42)	44.54 (9.87)	47.75 (9.97)	44.05 (10.63)	47.55 (10.51)	43.69 (11.00)
Years of Experience	18.03 (10.76)	14.88 (10.44)	16.14 (9.77)	14.84 (9.44)	18.30 (10.46)	15.24 (10.13)	19.13 (10.83)	15.65 (10.89)	17.91 (11.34)	13.95 (10.86)
Job Satisfaction (scale of 1-5)	3.66 (0.58)	3.60 (0.55)	3.59 (0.57)	3.52 (0.58)	3.58 (0.53)	3.52 (0.52)	3.70 (0.59)	3.64 (0.58)	3.73 (0.58)	3.69 (0.55)
Hours Worked per Week	35.73 (9.82)	34.05 (9.15)	36.48 (9.80)	34.82 (9.02)	35.99 (10.42)	33.81 (9.94)	35.41 (9.50)	33.86 (9.03)	35.39 (9.57)	33.91 (8.65)
Hourly Wages	\$42.12 (14.13)	\$43.17 (14.33)	\$34.67 (10.73)	\$35.78 (10.81)	\$38.60 (12.66)	\$39.38 (12.31)	\$44.80 (13.79)	\$46.91 (14.41)	\$46.97 (14.77)	\$47.92 (14.95)
Annual Income	\$76,681 (28,541)	\$74,646 (26,455)	\$65,292 (24,187)	\$64,321 (23,169)	\$70,588 (26,023)	\$67,459 (23,779)	\$81,020 (28,799)	\$80,544 (26,799)	\$84,436 (29,442)	\$82,250 (26,510)
Other Income ¹	\$42,734 (46,825)	\$40,851 (43,690)	\$31,222 (28,746)	\$32,072 (29,035)	\$36,700 (34,708)	\$36,554 (34,395)	\$45,296 (43,648)	\$44,719 (42,223)	\$52,156 (62,302)	\$46,828 (56,570)

¹NOTE: 20% of participants had other household income of zero.

Table 2.
All RNs and Direct Care RNs: Proportions (Sample Size)

	All Years			1997			2004			2006			2008		
	All RNs	Acute Direct	(N)	All RNs	Acute Direct	(N)	All RNs	Acute Direct	(N)	All RNs	Acute Direct	(N)	All RNs	Acute Direct	(N)
Marital Status	69.6 (5,894)	68.6 (2,509)		69.5 (1,030)	69.0 (501)		70.1 (1,488)	69.1 (616)		70.3 (1,640)	69.6 (655)		68.5 (1,736)	67.1 (737)	
Children Living at Home	54.0 (4,576)	58.6 (2,144)		61.2 (907)	65.4 (475)		56.9 (1,208)	60.3 (538)		49.7 (1,158)	55.2 (519)		51.4 (1,303)	55.7 (612)	
Other Dependents at Home	20.8 (1,758)	20.5 (750)		8.4 (124)	9.2 (67)		23.4 (497)	22.6 (202)		22.5 (524)	23.6 (222)		24.2 (613)	23.6 (259)	
Ethnicity															
Whites	67 (5,697)	60.9 (2,229)		66.3 (982)	60.9 (442)		66.6 (1,414)	61.7 (550)		70.8 (1,650)	62.5 (588)		65.1 (1,651)	59.1 (649)	
Blacks	3.0 (253)	2.6 (95)		3.9 (58)	2.9 (21)		3.0 (63)	2.2 (20)		3.0 (69)	3.0 (28)		2.5 (63)	2.4 (26)	
Hispanics	5.9 (499)	6.4 (233)		5.0 (74)	5.8 (42)		6.4 (136)	6.6 (59)		5.4 (126)	6.7 (63)		6.4 (163)	6.3 (69)	
Asians	20.8 (1,763)	26.8 (981)		21.9 (324)	27.7 (201)		20.8 (441)	25.6 (228)		18.5 (432)	25.6 (241)		22.3 (566)	28.3 (311)	
Others	3.1 (260)	3.3 (120)		3.0 (44)	2.8 (20)		3.2 (68)	3.8 (35)		2.4 (55)	2.2 (21)		3.7 (93)	4.0 (44)	
Level of Education															
Diploma	10.9 (923)	10.2 (373)		19.2 (285)	15.8 (115)		13.5 (287)	12.2 (109)		7.0 (163)	6.9 (65)		7.4 (188)	7.6 (84)	
Associate Degree	36.3 (3,076)	41.5 (1,519)		42.2 (626)	44.6 (324)		39.6 (840)	46.7 (417)		31.3 (729)	37.2 (350)		34.7 (881)	38.9 (428)	
Bachelor's Degree	41.2 (3,487)	44.0 (156)		37.5 (556)	38.7 (281)		37.5 (795)	37.9 (338)		45.2 (1,054)	50.2 (472)		42.7 (1,082)	47.2 (519)	
Master's or Doctoral Degree	11.6 (986)	4.3 (156)		1.0 (15)	0.8 (6)		9.4 (200)	3.1 (28)		16.6 (386)	5.7 (54)		15.2 (385)	6.2 (68)	
Foreign Educated	17.3 (2,332)	22.2 (1,075)		18.9 (487)	23.1 (225)		17.3 (588)	20.3 (235)		15.2 (566)	21.5 (283)		18.4 (691)	24.0 (332)	
Employment															
Working for an Agency	4.1 (508)	5.9 (291)		6.4 (140)	7.0 (70)		4.9 (151)	7.2 (86)		3.5 (112)	5.9 (76)		2.7 (105)	4.2 (59)	
Working Full Time	76.4 (6,470)	72.7 (2,658)		79.4 (1,176)	75.9 (551)		75.2 (1,596)	69.2 (617)		76.0 (1,772)	72.6 (683)		75.9 (1,926)	73.4 (807)	

Table 3.
Locations of Employment and Type of Position: Proportions (Sample Size)

% (N)	1997	2004	2006	2008
Location of Employment				
Acute Care	59.5 (1,303)	60.0 (1,825)	55.5 (1,796)	56.8 (1,873)
SNF/Home	14.2 (312)	7.5 (227)	6.6 (215)	8.0 (264)
Public Health Dept	4.4 (96)	1.9 (57)	9.2 (299)	7.8 (257)
Ambulatory Care	11.6 (255)	11.3 (344)	15.1 (490)	15.9 (525)
Other	10.3 (225)	19.4 (589)	13.5 (439)	11.5 (378)
Type of Position Held				
Management	16.2 (344)	19.4 (574)	16.1 (524)	11.7 (388)
Advance Practice	8.6 (183)	6.0 (178)	11.0 (356)	15.1 (501)
Direct Patient Care	67.7 (1,439)	52.2 (1,549)	58.1 (1,885)	61.8 (2,050)
Other	7.5 (159)	22.4 (665)	14.8 (480)	11.4 (380)

In 2006 and 2008, one modal age was 30-35 years and the other mode was 50-55 years old.

The ethnic diversity of California RNs changed slightly but significantly for all working RNs but not for RNs working in acute direct patient care (see Tables 1 & 4). Most RNs were identified as White (over 60%) or Asian (over 20%). The proportion of Blacks in the sample decreased by half, composing only 2.5% of the respondents in 2008; while Hispanics increased by almost a third, reaching 6.4% of the sample in 2008. Among RNs working in acute direct patient care positions, the ethnic mix has not changed significantly since 1997. The share of RNs identifying as Blacks, Hispanics, and "other ethnicity" remained 2.6%, 6.4%, and 3.3% respectively.

The human capital characteristics also changed between 1997 and 2008. The proportion of California RNs with bachelor's, master's, or doctoral degrees in-

creased by almost 20%, from 38.5% in 1997 to 57.2% in 2008 (see Tables 1 & 4). Among RNs working in acute direct patient care positions, the increase was smaller (13.9%) but also significant, increasing from 39.5% in 1997 to 53.4% in 2008. The country where education occurred fluctuated but leveled at 18.4% in 2008 (see Tables 1 & 4). The proportion of foreign-educated RNs fluctuated less among RNs working in acute direct patient care positions and averaged 22.2%. The mean number of years of experience changed over the data points as well (see Tables 2 & 4). In 2008 the average number of years of experience for all working RNs was 17.91 ($SD=11.34$) years, an average of 2 years more than their 1997 counterparts. In contrast, the mean number of years of experience for acute direct patient care RNs decreased during the same period from an average of 14.84 ($SD=9.44$).

Hourly wages (accounting for

inflation) for all RNs working in California rose by \$12.29, from a mean of \$34.67 ($SD=10.73$) an hour in 1997 to \$46.97 ($SD=14.77$) in 2008, an increase of 35.45% over the 11 years studied (see Tables 2 & 4). Similarly, acute direct patient care RNs saw their wages increase by \$12.14, from \$35.78 ($SD=10.81$) an hour in 1997 to \$47.92 ($SD=14.95$) in 2008, an increase of 33.93% in the same period. Annual income (accounting for inflation) increased by \$19,143, from \$65,292 ($SD=24,187$) in 1997 to \$84,436 ($SD=29,442$) in 2008, a 29.32% increase in 11 years (see Tables 2 & 4). For those working in acute direct patient care positions, annual income increased by \$17,929, from \$64,320 ($SD=23,169$) in 1997 to \$82,250 ($SD=26,510$) in 2008, an increase of 27.87% over the same period.

Among our larger group of respondents (all settings, all RN positions), 57.8% were working in acute care. Among those working in acute care, 74.8% were working

Table 4.
Scores for Within-Group Comparisons Over the Years Surveyed

	All RNs	Direct Care RNs
ANOVA (F scores)		
Age	43.519**	3.902**
Years of Experience	24.112**	4.969**
Job Satisfaction	40.430**	22.438**
Hours Worked per Week	5.283**	2.133
Hourly Wages	346.131**	166.608**
Annual Income	204.941**	144.405**
Other Income	80.351**	22.346**
Pearson Chi-Square		
Age Divided into 5-Year Increments	142.683**	34.309**
Marital Status	2.430	1.794
Children Living at Home	62.976**	23.470**
Other Dependents	169.648**	70.968**
Ethnicity	34.309**	11.937
Level of Education	458.482**	116.812**
Location of Education	19.138**	5.612
Location of Employment	414.537**	n/a
Type of Position Held	469.616**	n/a
Working for an Agency	55.880**	13.386**
Working Full Time	9.323*	9.625*

$p < 0.05 = *$, $p < 0.001 = **$

in direct patient care positions (see Table 3). The proportion of RNs working in acute care settings remained stable over the years, but the other settings saw significant shifts (see Table 4). As a proportion of RNs sampled, RNs working in skilled nursing facilities and home care decreased by more than half between 1997 and 2006 and then began to increase again. In 2008, 8% of working RNs were employed in home care and skilled nursing facilities. Public health department jobs almost doubled during the period studied, rising from 4.4% in 1997 to 7.8% in 2008. Ambulatory care settings jobs have also increased, reaching 15.9% in 2008. RNs working in "other" positions have remained relatively constant at

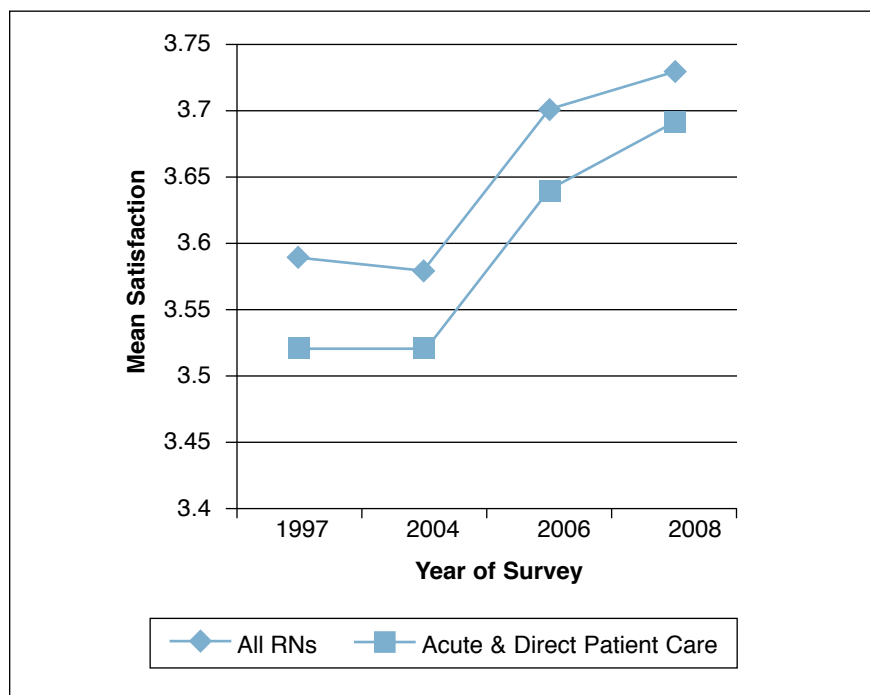
approximately 13% of the sample. The types of work done by RNs also changed over the years (see Tables 3 & 4). The proportion of RNs working in management peaked in 2004 and has since declined to 11.7%. The share of advanced practice nurses (NP, CNS, CRNA, midwife) almost doubled as a proportion of the sampled workforce, but RNs working in direct patient care positions generally remained at approximately 60%. In 2008, employment in an agency decreased by 50% among all RNs to 2.7% and to 4.2% for acute direct patient care nurses.

The average number of hours worked per week by California RNs decreased by approximately 1 hour, from 36.48 ($SD=9.80$) hours a week in 1997 to 35.39 ($SD=9.57$)

hours a week in 2008, a 3.5% increase in part-time labor (working less than 32 hours a week) by 2008 (see Tables 1, 2, & 4). Among acute direct patient care RNs, the decrease was less than an hour per week. However, when the time at work was compared as a share of full-time versus part-time workers, the difference was statistically significant with 2.5% more RNs employed in acute direct patient care positions working part-time in 2008.

The average overall satisfaction with work environment for RNs working and residing in California changed from 3.59 ($SD=0.57$) in 1997 to 3.73 ($SD=0.58$) in 2008 on a scale of 1 to 5 (1 = very unsatisfied, 3 = neutral, and 5 = very satisfied) (see Tables

Figure 2.
Mean Satisfaction of California RNs at the Time of Survey



2 & 4). For those working in acute direct patient care, overall satisfaction also increased significantly from 3.52 ($SD=0.58$) in 1997 to 3.69 ($SD=0.55$) in 2008 (see Figure 2). Bonferri post-hoc tests were conducted to identify where the differences in mean satisfaction occurred (full tables are available upon request). There was no difference between the mean satisfaction of RNs working in 1997 and 2004 (mean difference = -0.019, $p=1$), the survey year prior to and the year of implementation of AB 394. However, there were significant differences between the year the law was implemented (2004) and subsequent years. Between 2004 and 2006 (mean difference = -0.129, $p<0.01$) and between 2004 and 2008 (mean difference = -0.158, $p<0.01$), overall satisfaction with work environment improved significantly. The same was true for RNs working in acute direct patient care positions. Satisfaction increased significantly

from 3.52 ($SD=0.58$) in 1997 to 3.69 ($SD=0.55$) in 2008. Post-hoc tests show there was no difference between 1997 and 2004 (mean difference = -0.001, $p=1$); however, the mean differences were significant between 2004 and 2006 (mean difference = -0.122, $p<0.01$) and 2004 and 2008 (mean difference = -0.167, $p<0.01$). For both groups there was no difference between mean scores between 2006 and 2008 (mean difference = -0.029, $p=0.479$ & mean difference = -0.046, $p=0.364$).

Limitations of the study include having data only once every few years and the loss of sample size when the inclusion and exclusion criteria were applied. However, the sample is a random selection and therefore we assume it is a reflection of the population. Another limitation to note is that there is wide variation in the scores as indicated by the large standard deviation.

Discussion

The most interesting finding of this study was that there was an increase in nurse satisfaction after the minimum staffing law was implemented. Given the methods, this study cannot determine causality; however, the association between year and satisfaction is clear. Satisfaction increased for all working RNs and for those working in acute direct patient care between 2004 (the year AB 394 was implemented) and 2006 (short-term effect of the law) and between 2006 and 2008 (long-term effect of the law). In 2008 the average nurse was more satisfied than would be indicated by a “neutral” response (score = 3) but still not “satisfied” (score = 4) with the work environment. Our findings suggest AB 394 helped improve nurse overall satisfaction with work environment, but the effect of the law plateaued and more needs to be done to bring RN satisfaction scores over 4, indicating nurses are “satisfied” or “very satisfied” with their work environment. Overall satisfaction is linked to the decision to work and how much to work (Brewer et al., 2006). As the nurse workforce ages and retires in larger number, a shortage of experienced nurses looms in the coming years. At the same time, demand for health care is increasing due to the aging general population and the implementation of the Affordable Care Act. These forces put pressure on the health care system to care for more patients with fewer nurses. Minimum nurse-patient staffing legislation, such as AB 394, served to counter such pressure.

Findings also suggest work environments need to change to accommodate the changes that have occurred in the nurse population. Nurses are reporting fewer children and more other dependents. That is likely a reflection of the average age increase among nurses. However, since the age was bimodal in 2008, we suspect

there was also an influx of individuals who were seeking a second career. These individuals may have contributed to the increase in the level of education of California nurses during the period studied. Nevertheless, several generous sources provided funds to nursing programs in the state during the past 10 years, such as the Moore Initiatives, the California Healthcare Foundation, and the California Endowment (Ganley & Sheets, 2009; Huckabay, 2009; Scherzer, Stotts, & Fontaine, 2010; Schwartz & Laughlin, 2008). Years of experience declined for acute care nurses with a great proportion of younger nurses working in acute care. This may be related to the influx of new nurses and the idea that as nurses age, they move away from the bedside. Educated and experienced nurses are more satisfied in shared governance work environments where they have autonomy (IOM, 2010). Organizations that value these characteristics and embrace nurses as professional labor are more likely to recruit and retain quality nurses.

Income from sources other than nursing work increased substantially, which is probably spousal income. In 1997, 30% of respondents had no other income, which meant these RNs were head of households or their spouses were not employed (given that marriage stayed the same at 60%). In 2008, however, only 14% had no other source of income. Income from nursing in California also increased, and it was considerably higher than the rest of the country. California RN salaries top the regional salary list, with nurses making an average of \$45.73 an hour, almost \$10 more than in Arizona, Colorado, and Oregon and almost twice as much as Utah (\$25.30) (Goulette, 2011). It was surprising, however, that the acute direct patient care nurses did not make a higher hourly wage than the average nurse. This may be an indication other settings are catch-

ing up with acute care, or it may reflect a flattening of wages in acute care, beginning in 2007 with the decline of the nurse shortage. Over the time of the study, more RNs were working part-time, and although not measured in these data, more of them were moving to 12-hour shifts. These findings corroborate previous research that suggests wage increases have reached a threshold and further increases are no longer effective motivators for increasing the nurse supply in terms of hours worked per week (Tellez et al., 2010). Therefore, non-pecuniary incentives must be developed, such as career ladder, recognition programs, flexible scheduling, and educational opportunities.

The types of positions held by nurses in California also changed over the years studied with more nurses becoming advance practice nurses or managers. The increase in managers may have been related to the need to navigate the transition of the ratio implementation. A study conducted by Tellez (2012) using California BRN data found managers were more satisfied than RNs working in other nursing positions after 2004. It is possible managers were less stressed at work. The requirements imposed by the AB 394 may have facilitated the work of managers.

The ethnic diversity of RNs is still abysmal in comparison with the population of California, with African-Americans and Hispanics extremely underrepresented. As the uninsured gain access to care, patient diversity will increase. Health care provider and patient racial, ethnic, and language concordance will become increasingly important in order to provide high-quality and safe patient care to the population (Tellez, Black, & Tinoco, 2011). Recruitment of students of color must start in high school, remediation programs must be offered at schools of nursing, grants and scholarships that support minority students must be

increased, and public campaigns targeting ethnic and language minorities must be created. Employers must increase conflict resolution and communication training to improve retention and recruitment of nurses of color (Tellez et al., 2011).

Because of the uncertainty in the implementation of the Affordable Care Act, it is not clear how much of an increase in the nurse workforce will be required in the near term. However, we still expect to see an aging RN workforce, a decline in resources going to nursing programs, and an increase in demand for health care as the nation's population ages. We also expect a further increase in ethnic diversity in the population with a stagnant proportion of ethnic diversity in the RN workforce. Although our results are derived from California data, these trends are appearing across the country. Therefore, it is imperative the RN workforce development efforts suggested by the IOM (2010) be implemented. Nurses should practice to the full extent of their education and training; nurses should be full partners in redesigning the health care system; nurse education should promote seamless academic progression; and effective workforce planning and policymaking should be conducted. The findings of this study support these recommendations and highlight the importance of targeting older and ethnically diverse nurse populations. Administrators, health policymakers, and advocates must develop job descriptions and work environments that maximize the attachment of the labor force in terms of hours worked per week of RNs for all nurses but especially for those over 50 years of age and non-Whites. \$

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