

**Nursing Shortages:
Is there a crisis?
If so, what are the implications?**

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Research

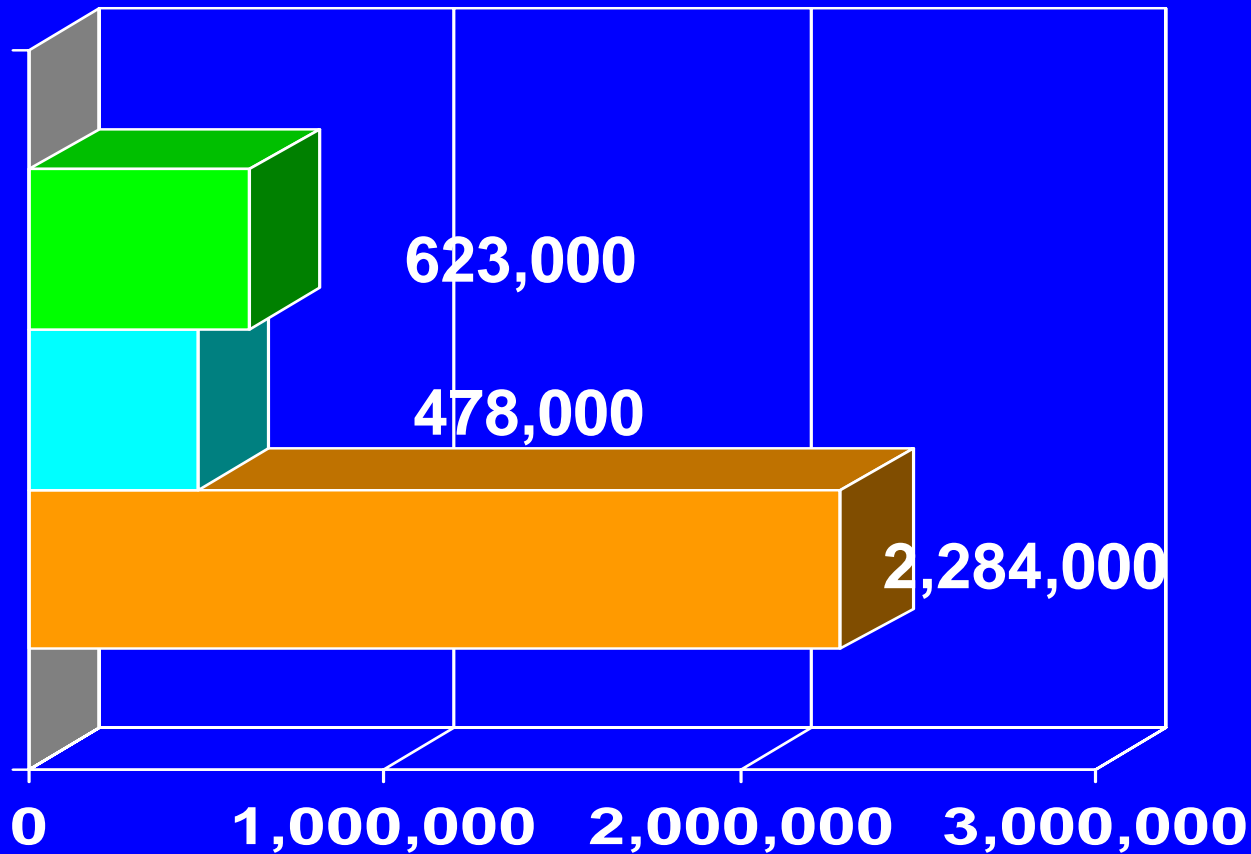
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Nursing Shortages Result From ...

- Inadequate supply
- Failed employer human resource policies
- Too few budgeted positions
- Excess demand because of system deficiencies and failures
- Wrong educational mix

Over One Million New Nurses Needed by 2012



- Growth**
- Replacement (2002 - 2012)**
- Current RN Jobs (2002)**

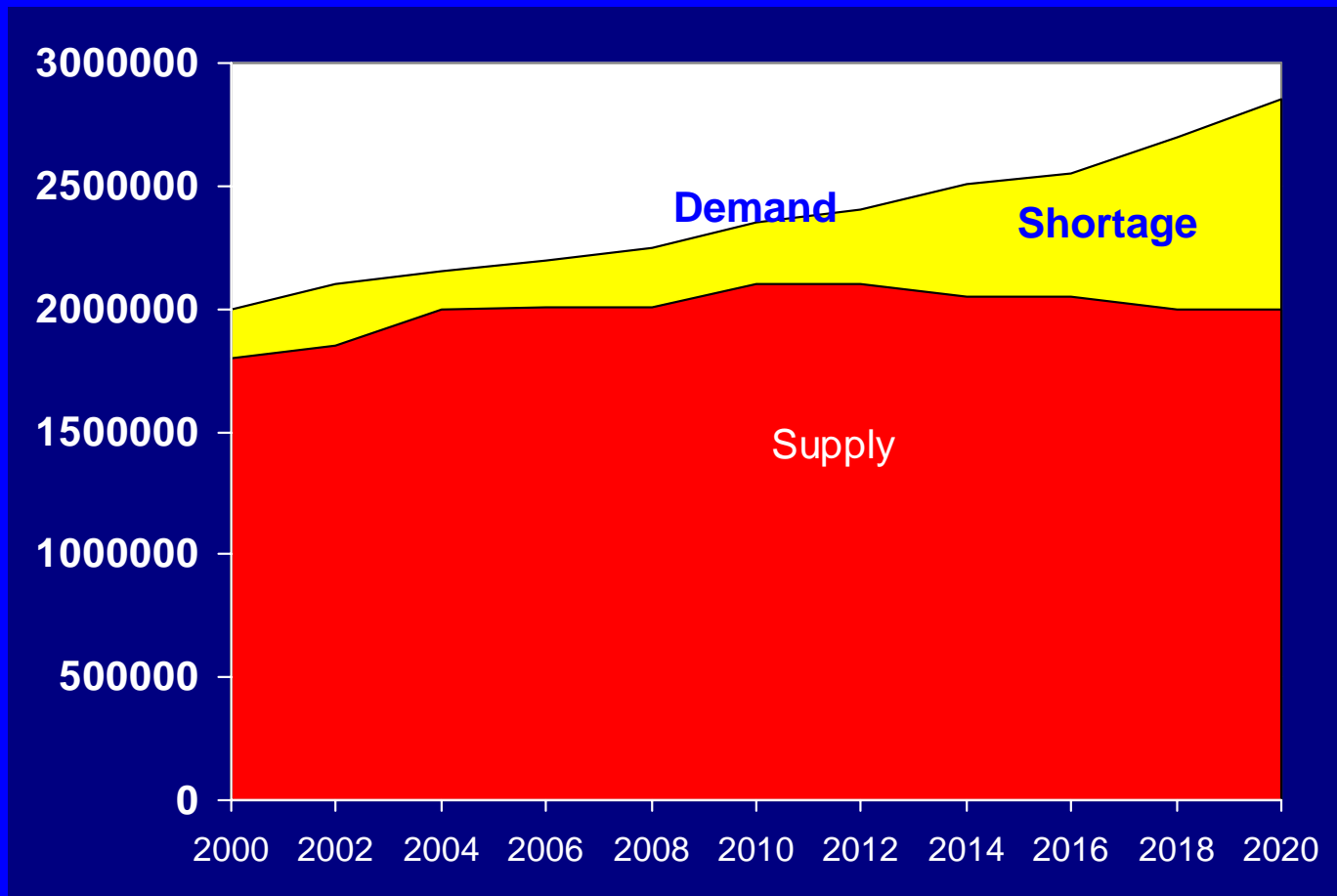
(US Bureau of Labor Statistics Feb. 2004)

Age of Registered Nurse Population

	<u>1980</u>	<u>2000</u>	<u>2004</u>
Average Years	40.3	45.2	46.8
Less than 30 years	25.7%	9.1%	8.1%
Less than 35 years	41.4%	18.4%	16.6%
Less than 40 years	54.0%	31.9%	26.6%
40 years and over	46.0%	68.1%	73.4%

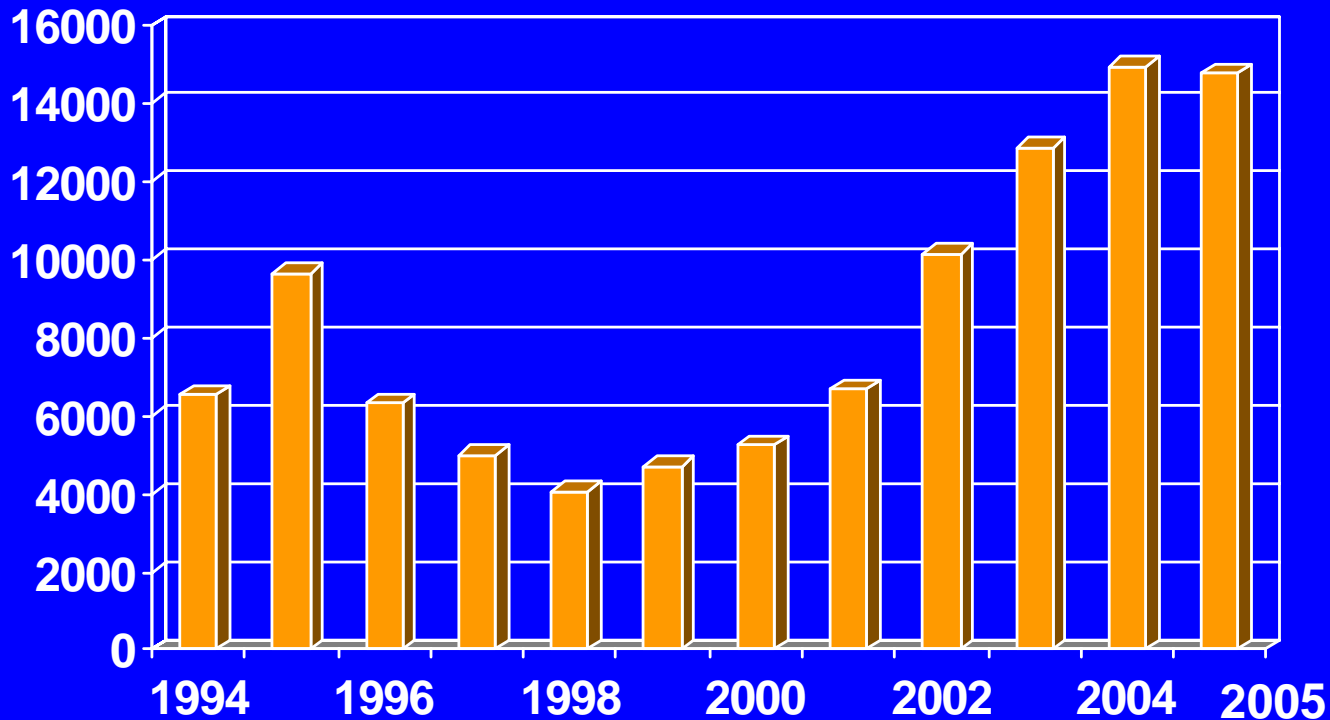
Source: National Sample Survey of Registered Nurses, BHP, HRSA.

Forecast for FTE Registered Nurses Suggests Shortfall of 800,000 by 2020



Source: Health Resources and Services Administration, Bureau of Health Professions (HRSA), 2002

Number of Newly Licensed Foreign Educated Registered Nurses in U.S., 1994-2005



Source: Author's calculation from National Council of State Boards of Nursing

Consequences of Future Nurse Shortage

- Nurse understaffing in general and specifically in hospitals
- Deficient quality and unsafe care
- Impaired access to hospitals and other health services
- Compromise/cripple emergency preparedness
- Dampen health services expansion which adversely affects jobs and local economy
- Virtually no risk of oversupply of nurses



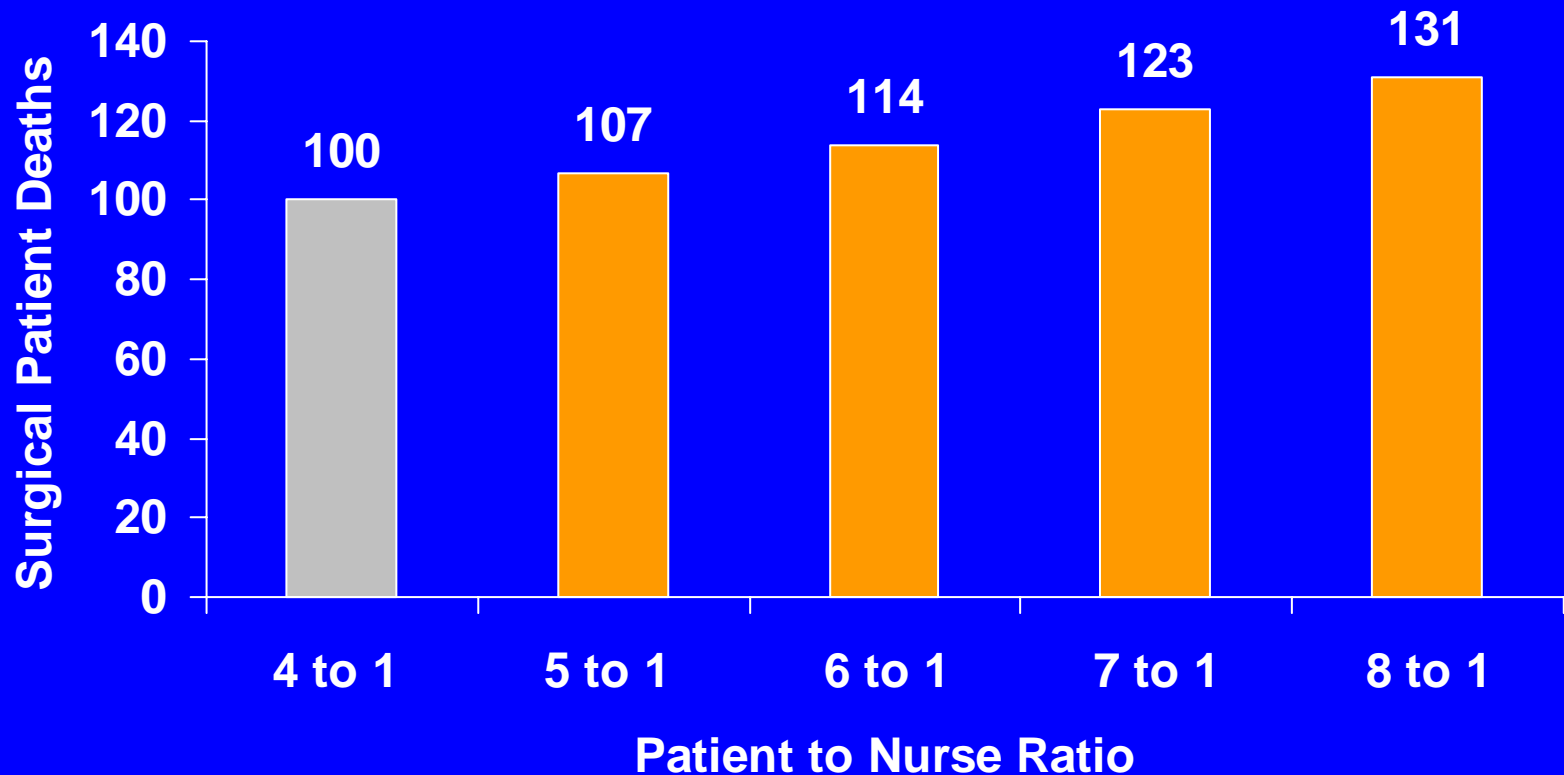
Modern Healthcare

**Operations are ready. Now
where are the nurses?**

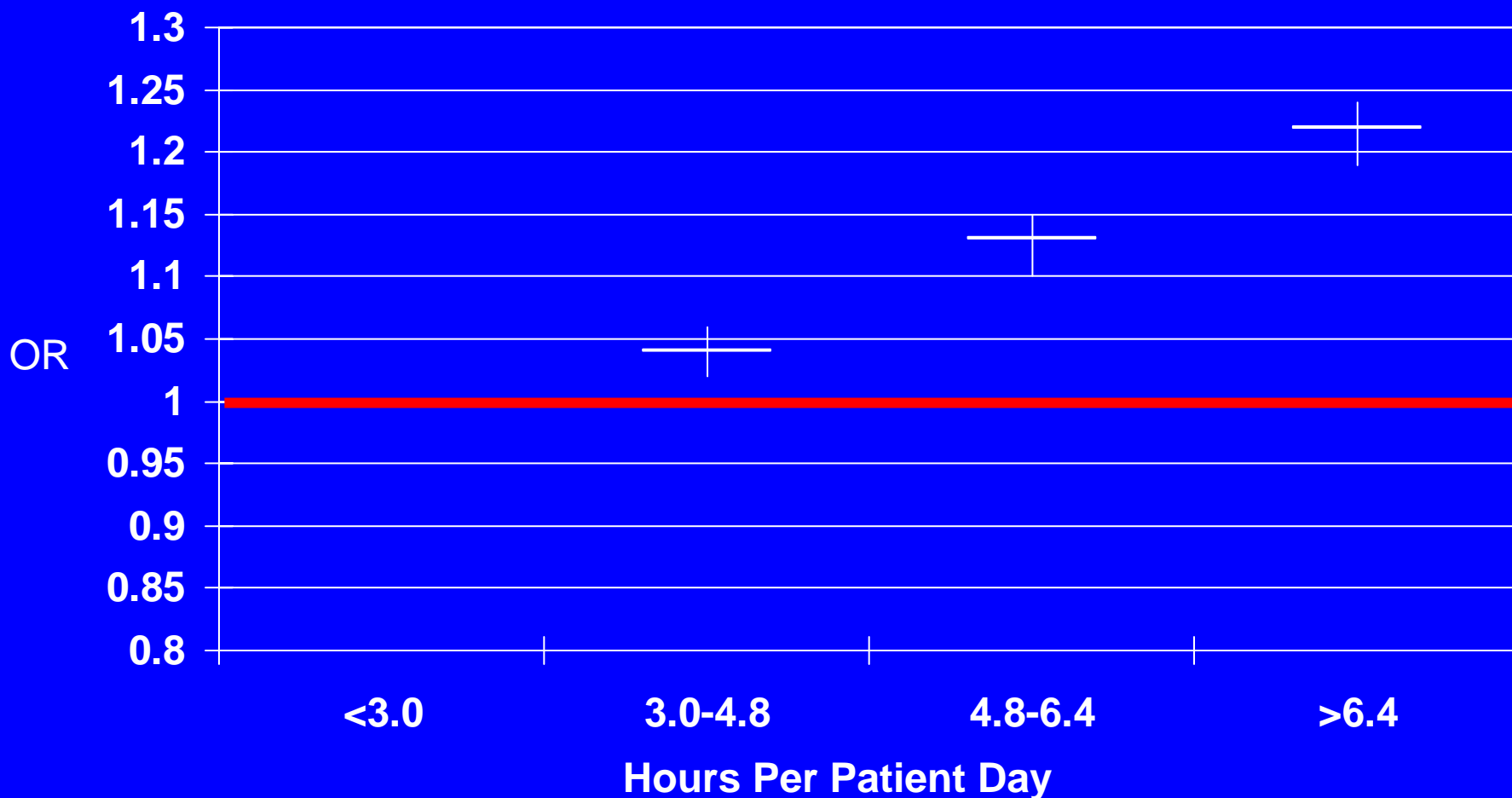
**The stakes are high. You've put a
lot on the line to make sure
operations are ready to go. But
without the nurses, you're going
nowhere—you're left with
expense and no revenue**

For every 100 surgical patients who die in hospitals with 4 to 1 patient to nurse ratios, the number that would die in hospitals with higher ratios would be be...

(L. Aiken et al. JAMA 2002)

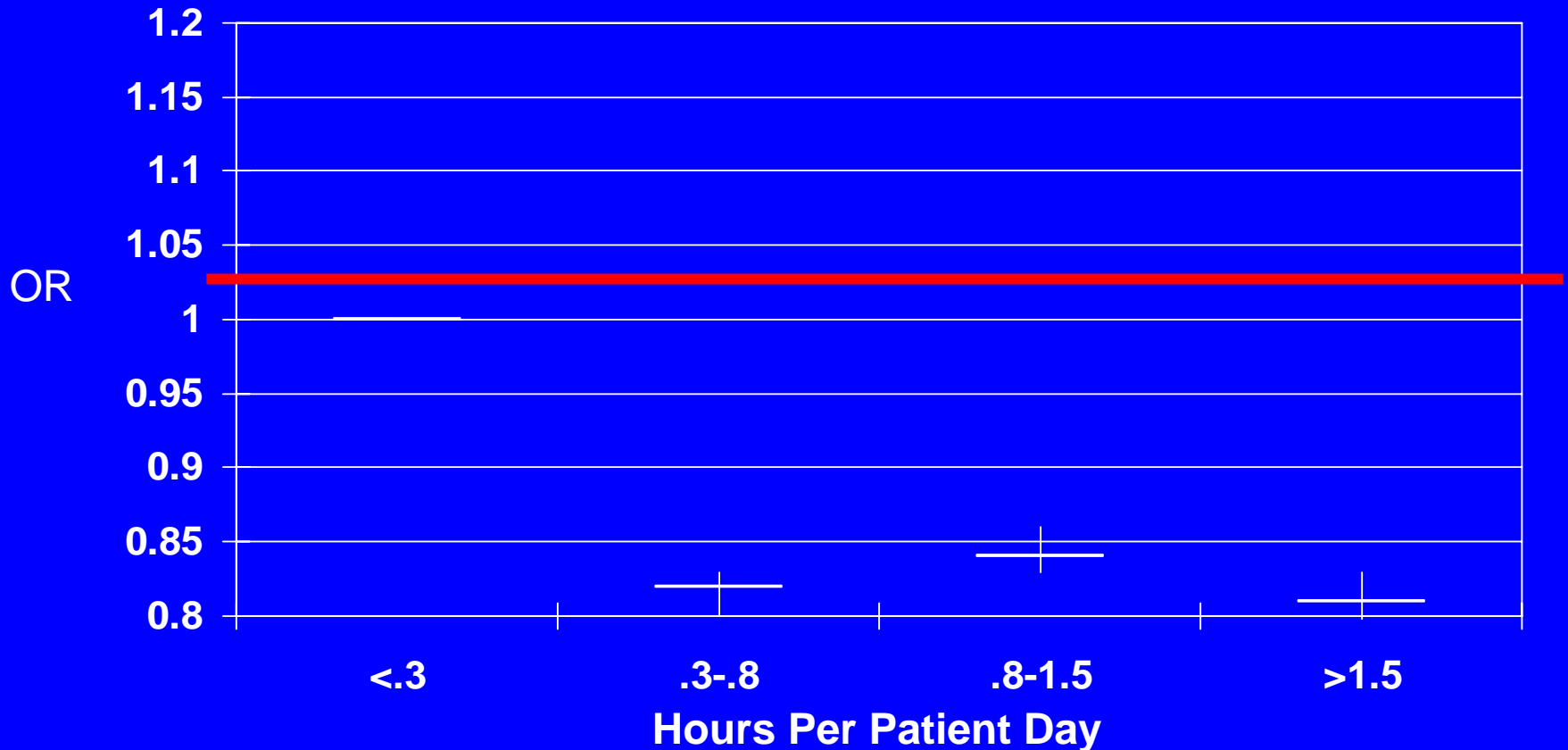


Odds Ratios for Cases Meeting CMS/JCAHO Diagnosis/Treatment Composite Indicator Criteria (AMI, CHF, Pneumonia) by Hospital RN HPPD, 2004 (N=3590, Mean 404 cases/hospital)

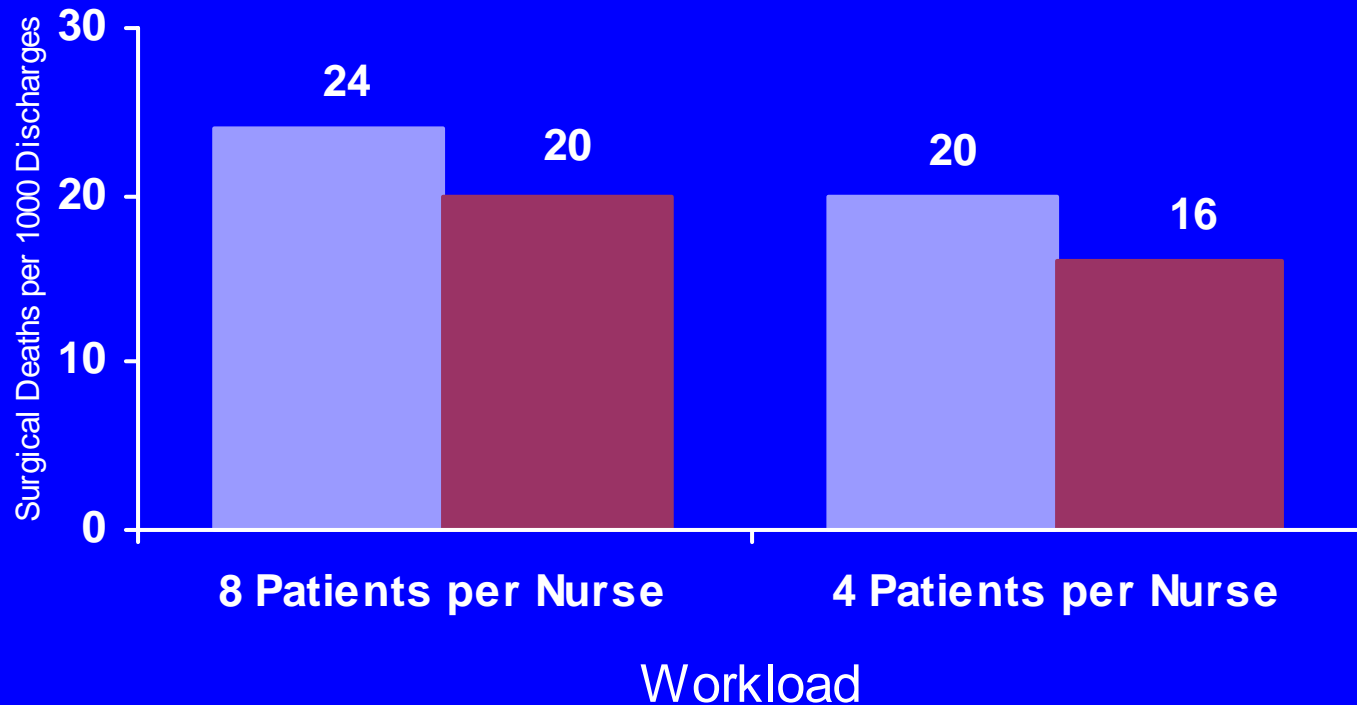


Odds Ratios for Cases Meeting CMS/JCAHO AMI-Specific Composite Indicator Criteria by Hospital LPN HPPD, 2004

(N=3378, Mean 272 cases/hospital)

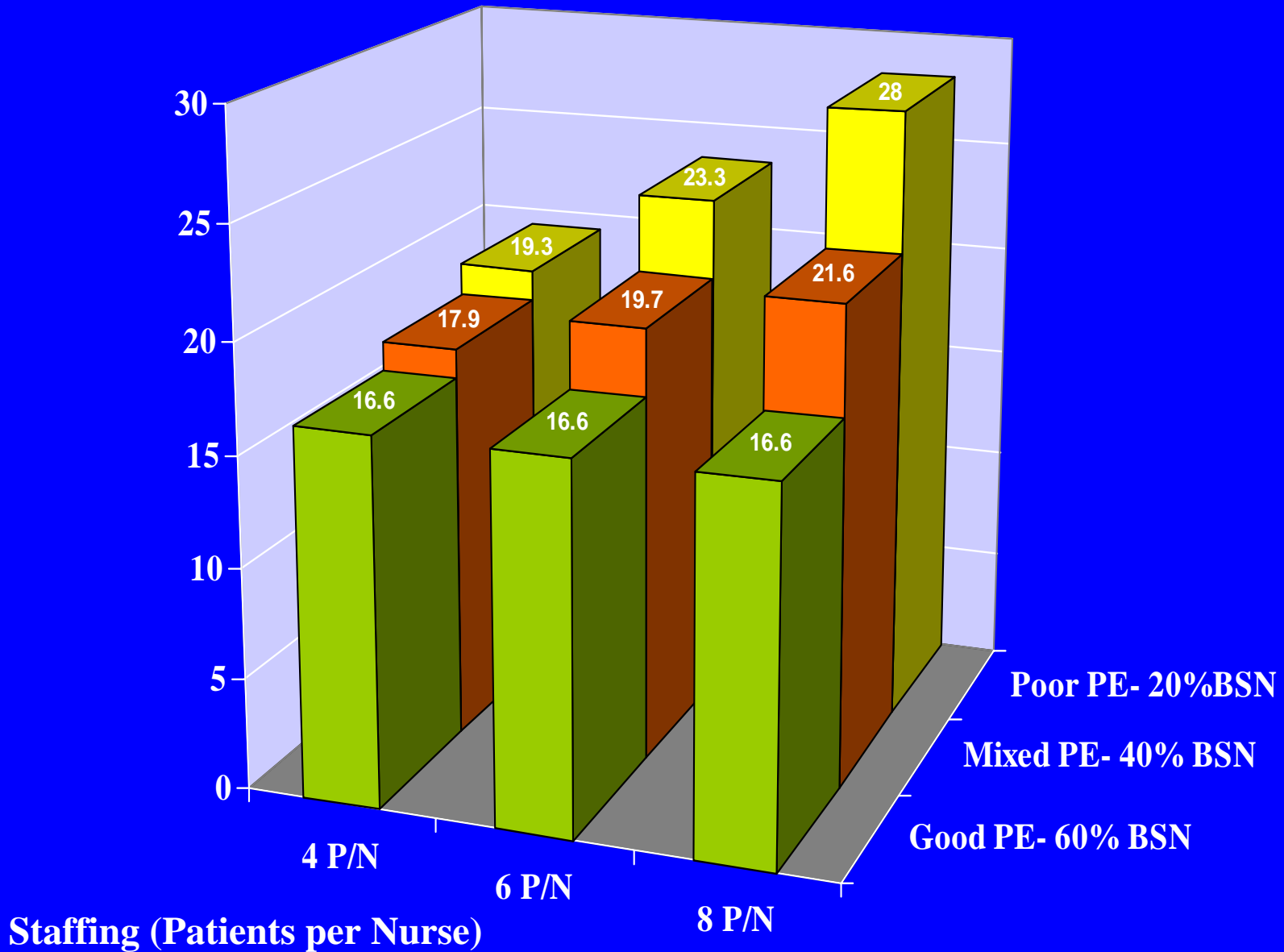


Mortality Rates in Hospitals with Differing Workloads and Percentages of BSNs



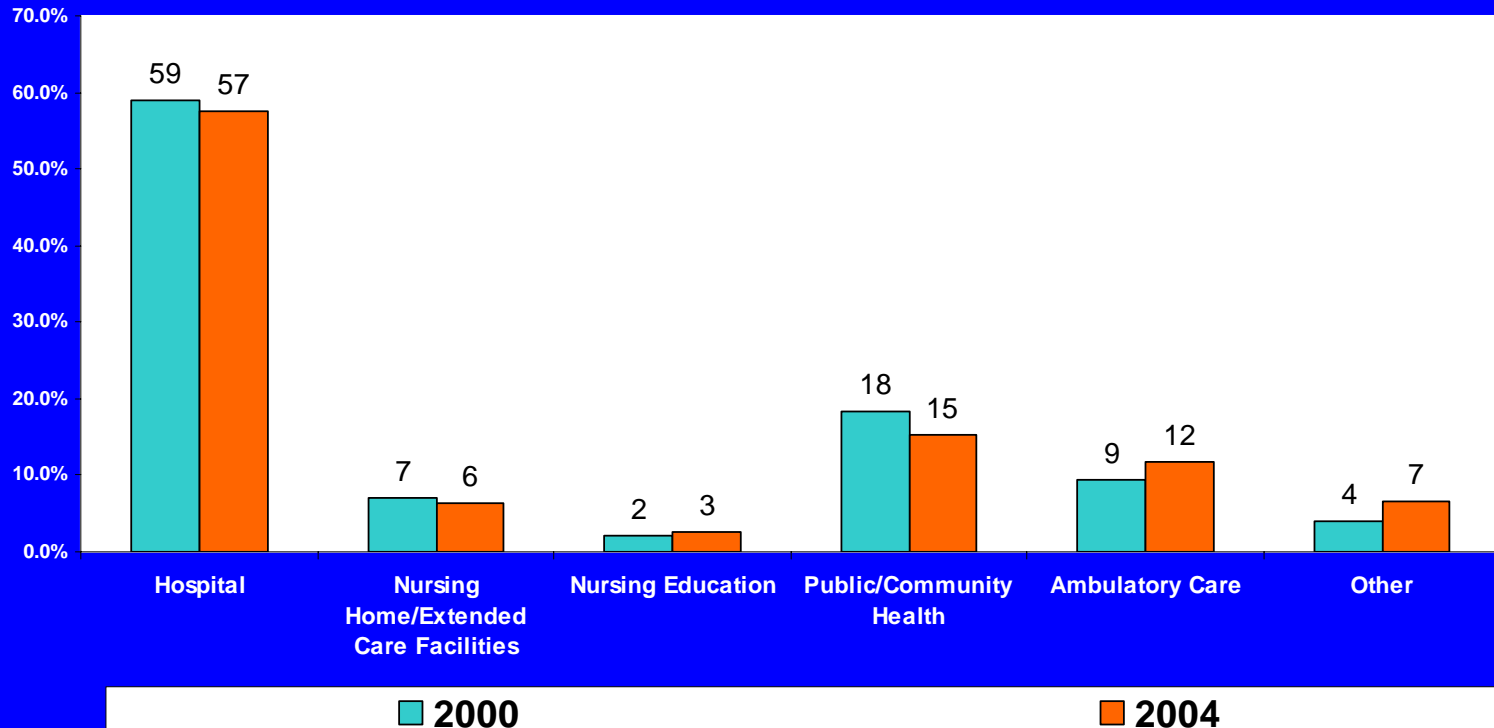
■ 20% Nurses with BSNs ■ 60% Nurses with BSNs

Deaths Per 1000 Surgical Patients



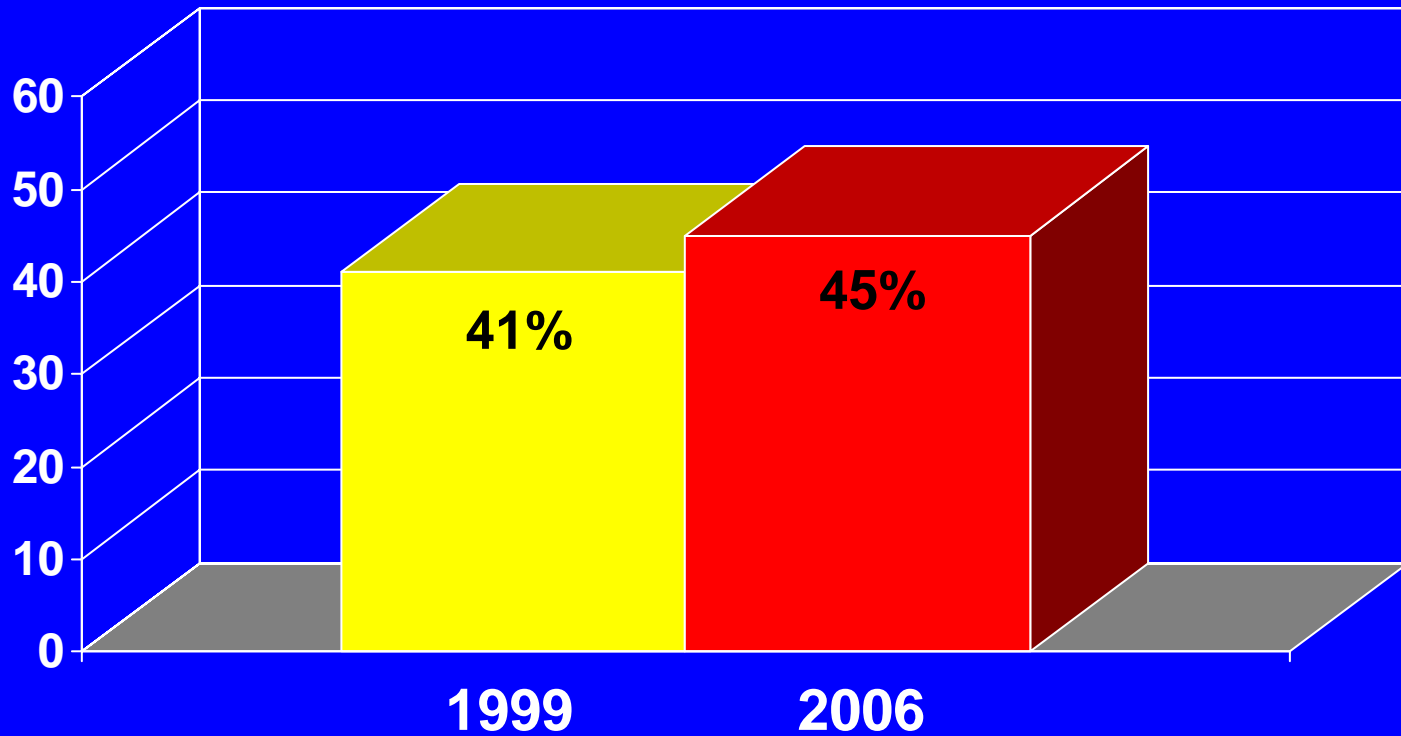
Employment Settings of Registered Nurses, 2000 and 2004

(in percents)



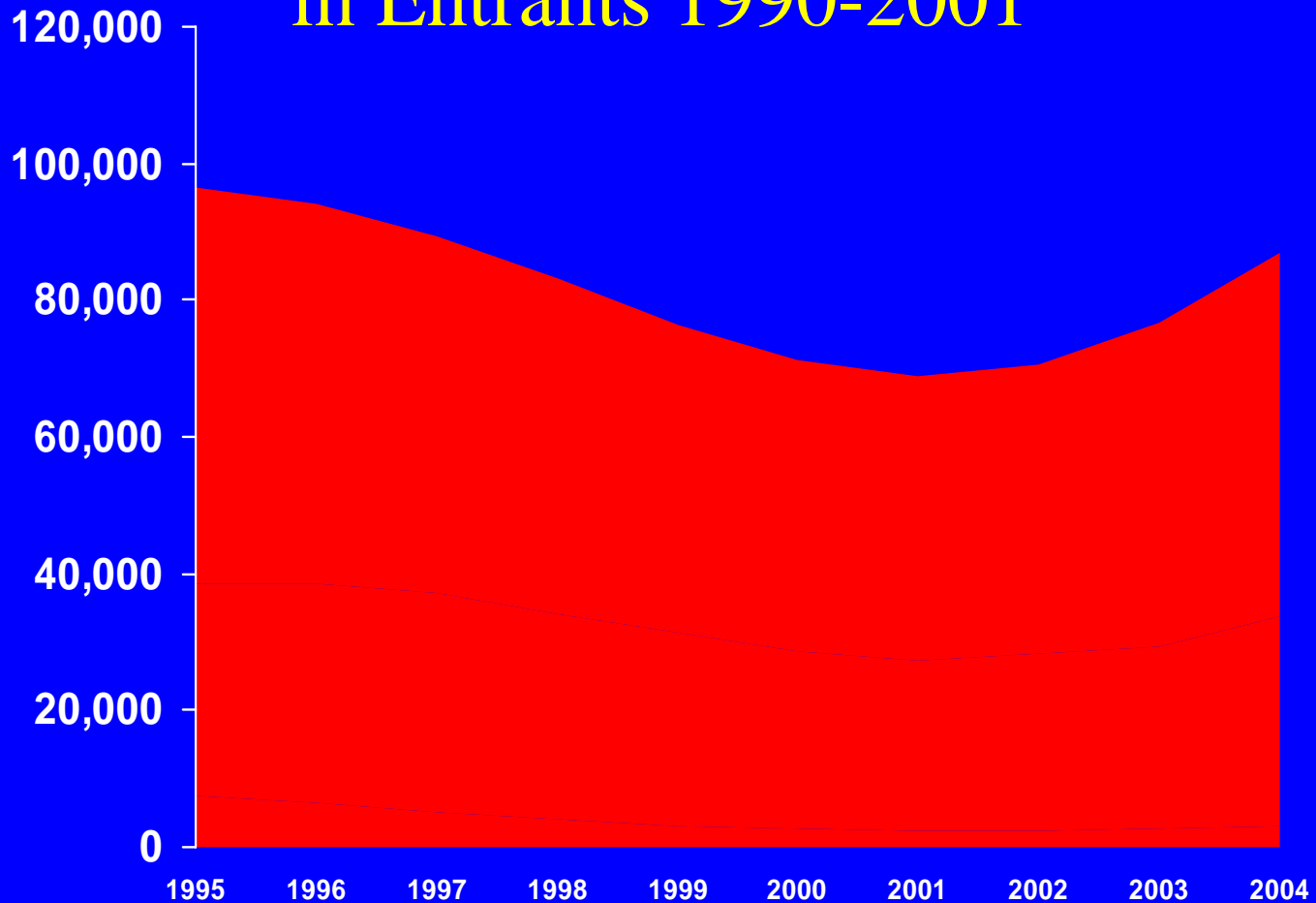
Source: National Sample Survey of Registered Nurses, BHP, HRSA.

No Improvement in Nurse Burnout Since Institute of Medicine's 1999 Medical Error Report

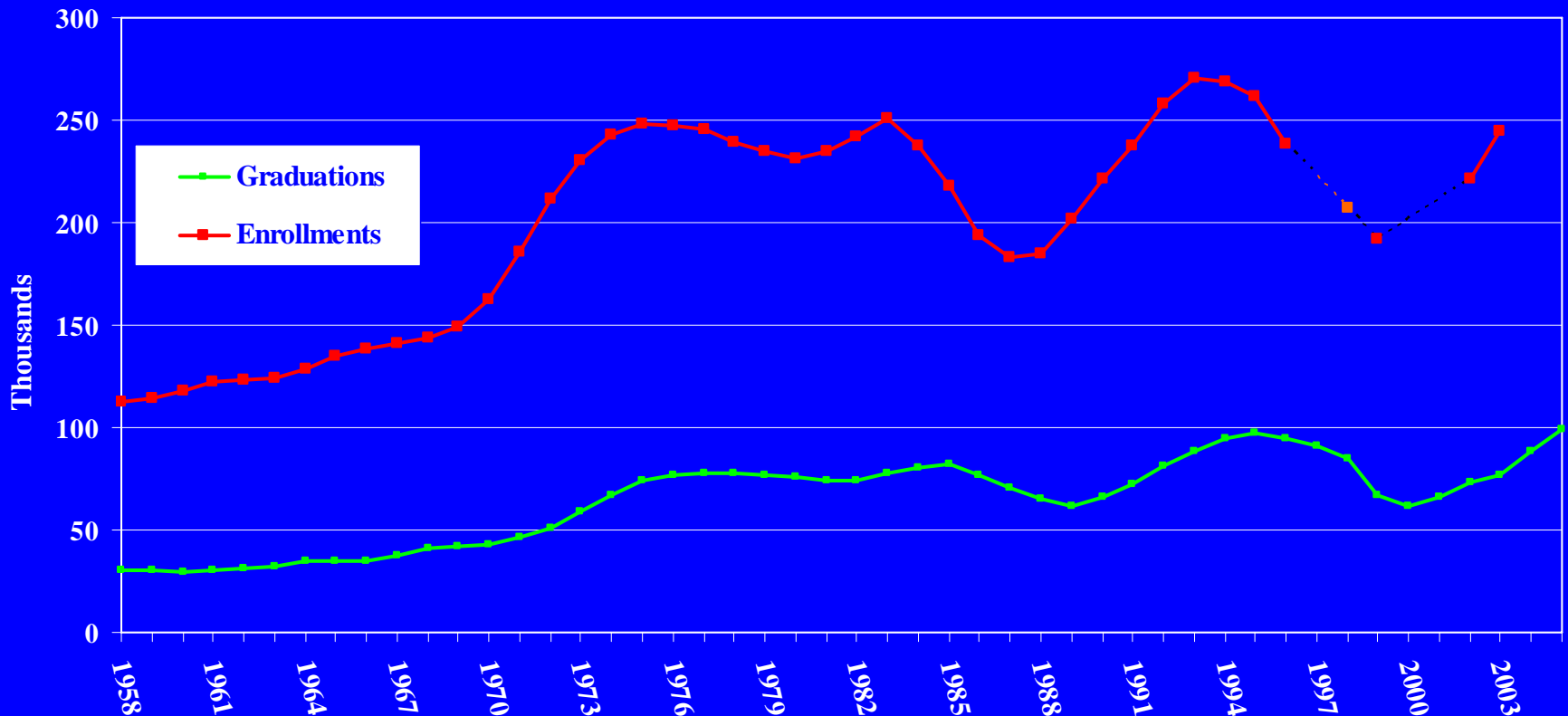


% Hospital Staff Nurses with High Burnout

First-time US Educated Candidates Taking NCLEX-RN Exam: Market Induced Decline in Entrants 1990-2001



Graduations and Enrollments in RN Programs 1958 - 2003*

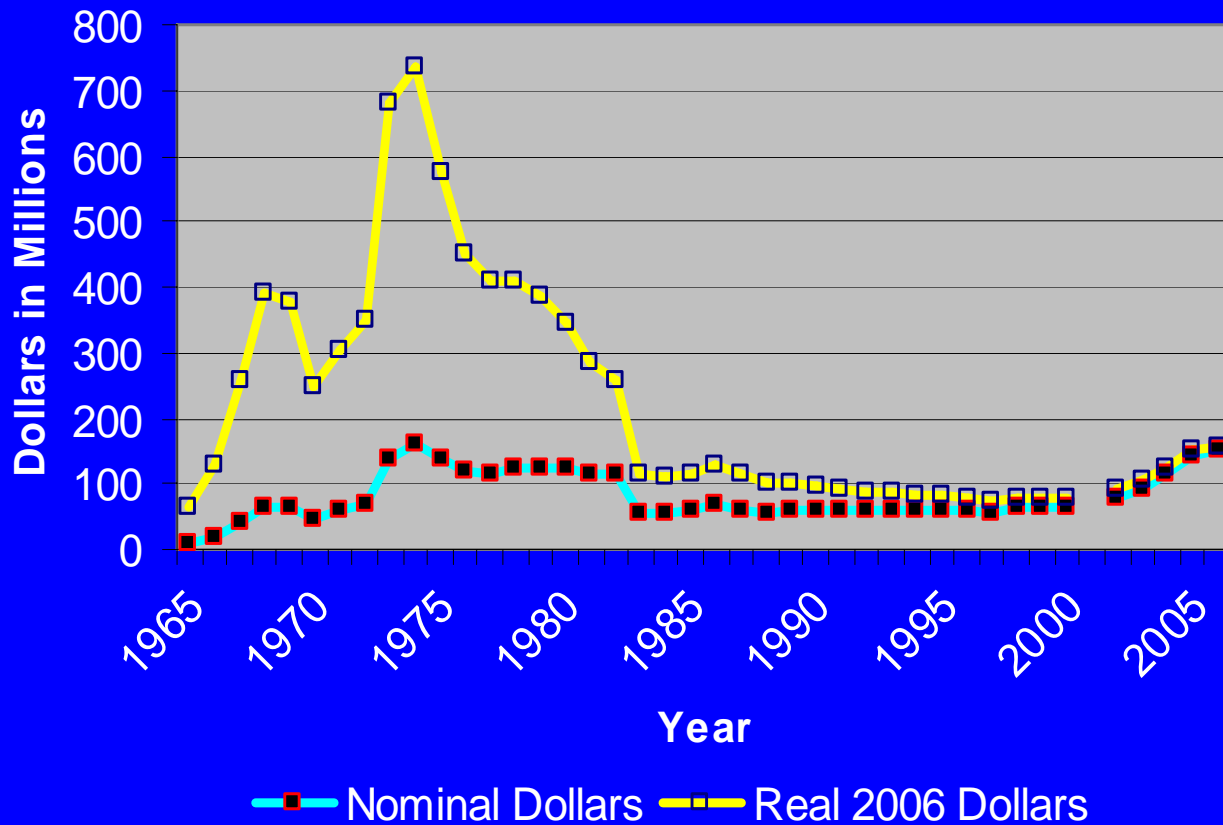


Data sources: NLN (enrollments 1958-1996, 1999, 2002-2003; graduations 1958-2004); National Council State Boards of Nursing (2005 first-time U.S.-educated NCLEX-RN test takers to estimate graduations).

Dotted line indicates imputed values for missing data, years 1997, 1998, 2000, 2001.

* Data on enrollments available for years 1958-2003.

Trends in Title VIII Appropriations for Nursing



Percent Distribution of RN Graduations by Basic Education Type, pre 1950 to 2000

Year	<i>Basic</i>			
	DIPLOMA	ADN	BSN	MSN
Pre 1950	95%	1%	4%	0.2%
1950-59	88%	2%	10%	0.2%
1960-69	75%	8%	17%	0.0%
1970-79	33%	39%	29%	0.1%
1980-89	15%	51%	34%	0.2%
1990-2000	8%	60%	31%	0.5%

Faculty in BSN or Higher Degree Programs by Age

- Average Age 50.4 years
- Under 35 years 10.1 percent
- 35 to 45 years 15.5 percent
- 45 to 55 years 36.3 percent
- 55 years or older 38.0 percent

Source: National Sample Survey of Registered Nurses, BHP, HRSA.

Barriers to Higher Education

- Over 400,000 qualified high school graduates a year are financially unable to attend a 4-yr college; expected to rise to 4.4 million by 2010.
- Nurses from middle income families sensitive to cost of higher education
- Earlier increases in nurse enrollments helped by influx of women into higher education; will be more difficult in future to replicate with untargeted subsidies
- Universities unable to expand nursing enrollments without targeted subsidies for infrastructure development

Policy Recommendations

- Substantial increase in targeted public subsidies to baccalaureate nursing programs
 - To upgrade education of nurse workforce to improve quality and efficiency
 - To create a larger qualified pool from which to recruit faculty for all schools of nursing
- Increase in graduate education
 - To increase qualified faculty
 - To meet demand for higher educated nurse clinicians in primary care, chronic disease management, and acute care