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High job growth and declining graduates do not bode well for future supplies of nurses.

The nursing labor force is aging and disaffected.

Hospital incentives to attract nurses have come at a cost.

Kentucky's hospitals report shortages that are affecting operations and costs.

Future Impact of Nursing Shortage Uncertain Here

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Shortages of key medical personnel, most notably registered nurses (RNs), are occurring in health care facilities across the nation. Hospitals in particular, where RNs comprise the largest component of the labor force and deliver most of the patient care, are experiencing acute shortages in some parts of the country. Of the estimated 168,000 unfilled jobs in U.S. hospitals in 2001, 126,000 were for RNs.¹ And the situation may worsen. Demographics portend an explosion of demand for the care RNs provide and aging Baby Boomers will need. Nursing is predicted to have the third highest level of job growth (26%) among all occupations by 2010,² but supply has been stalled by declining nursing school enrollments and professional flight. The nursing shortage has begun to exert upward pressure on wages, contribute to rising health care costs, and, research suggests, affect patient outcomes. While an oversupply of RNs is predicted for Kentucky over the long term, hospitals are already experiencing shortages that are affecting operations and increasing costs.

Why are so few people entering and so many leaving one of the nation's most admired professions? Most analysts trace the roots of today's shortage to the spread of managed care in the 1990s which led to dramatic staff reductions in hospitals and shorter patient hospital stays. RNs working in hospitals fell from a peak of 68% in 1984 to 62% in 2000.³ Research has shown that RN hospital employment growth in states with high HMO penetration lagged well behind that of low-penetration states in the 1990s.⁴ The results: rising nurse-patient ratios, fewer support staff, more acutely ill patients to care for, increased physical and emotional stress, longer hours, and an escalating concern among nurses and others about the quality of patient care. Combined with real wages that remained relatively stagnant from 1992 to 2000,⁵ the perception of inadequate rewards for the work took hold. By 2000, the level of job satisfaction among RNs (69.5%) registered markedly lower than among the employed general population (85%) and professionals (90%).⁶ Between 1996 and 2000, the number of U.S. nursing school graduates declined 20%, and nursing schools have begun to experience their own gaps, from faculty shortages to inadequate budgets.⁷ After a long period (1980-1992) of little change, the number of RNs not employed in nursing increased 28% between 1992 and 2000.⁸ And this is an aging workforce. By 2010, an estimated 40% of all RNs will be older than age 50; between 1996 and 2000, the average age of RNs rose a full year to 43.3 years.⁹ The average age of Kentucky RNs is 41.¹⁰

Hospitals have responded to today's nursing shortage with job incentives such as sign-on bonuses, free child care, tuition reimbursement, and higher wages and benefits. Some are recruiting and training foreign nurses. Last year, Louisville's Norton Health Care Systems said it expected to recruit as many as 200 foreign nurses to alleviate a shortage of 450 nurses at its seven hospitals.¹¹ Mandatory overtime at hospitals, which has become a contentious labor issue, is yet another costly stopgap. In 2001, the average hourly U.S. hospital wage grew 6.1%, almost double the 2000 pace, "providing evidence of the financial fallout due to the severe shortage of nurses and other skilled hospital workers."¹²

In a 2002 hospital survey here, the Kentucky Hospital Association (KHA) found an estimated 1,750 full-time jobs for RNs vacant in Kentucky hospitals, 22% of which reported higher turnover rates among RNs than in 2001. Between 2000 and 2001, many hospitals reported that the RN shortage had an increased impact on their bottom line:

- 74% paid higher or much higher (6%) base salaries to RNs;
- 43% paid higher or much higher (8%) overtime pay to RNs;
- 33% paid higher or much higher (3%) referral bonuses; and
- 20% paid higher or much higher (3%) sign-on bonuses to new hires.



Policy Notes

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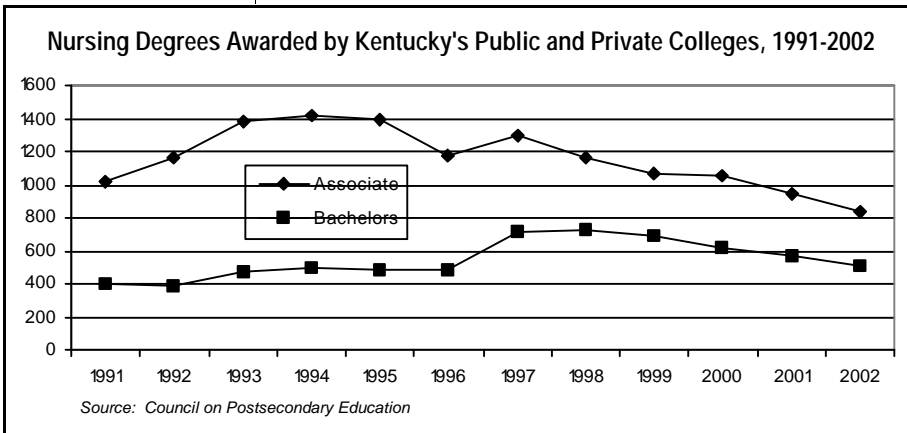
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In addition to higher costs, Kentucky hospitals reported a range of negative effects from workforce shortages, including: reductions in the number of staffed beds (20% of hospitals); emergency department overcrowding (43%); increased wait times for operating rooms (8%); cancelled surgeries (12%); decreased patient satisfaction (14%); and increased patient complaints (13%). Perhaps most notable, however, 39% of hospitals reported that RN perceptions of their ability to provide quality care declined.

The thinned ranks of nurses also have been linked with poorer patient outcomes. An analysis by the Joint Commission on Accreditation of Healthcare Organizations found that low levels of nursing staff were cited as contributing factors in 24% of hospital reports on 1,609 reported patient deaths and injuries since 1996.¹³ A 2002 study of patient outcomes in Pennsylvania hospitals concluded that for every increase of 1 patient in the staffing ratio, patient deaths rose 7%. Based on their findings, the authors calculated that an increase of patient-to-nurse ratios from 4:1 to 8:1 would result in 5 excess deaths per 1,000 patients and that patients in hospitals with an 8:1 ratio have a 31% greater risk of dying than those in hospitals with the lowest ratio (4:1).¹⁴ Another study that examined hospital data on adverse outcomes in 11 states found lower nurse-patient ratios were linked to a shorter average hospital stay, and fewer complications and preventable deaths among surgical patients.¹⁵

The potential long-term impact of the nursing shortage in Kentucky is, at best, uncertain. On the one hand, the federal Health Resources and Services Administration (HRSA), which calculated a 2000 surplus of 1,665 nurses for Kentucky, predicts that by 2005 the state will have a surplus of 6,865 nurses, 9,781 by 2010, and 6,509 by 2020. By 2020, HRSA predicts, Kentucky will number among just five states (IA, KS, OH, VT) with no shortage of nurses.¹⁶

But several indicators suggest that shortages in Kentucky hospitals may not be easily remedied. The growth of Kentucky's aging and relatively unhealthy population and its likely need for higher levels of nursing care may portend a worsening gap for hospitals and other health care facilities. Though Kentucky's long-term care facilities employ only 6% of RNs working in the state,¹⁷ they reported vacancy rates of 12.6% and an annual turnover rate of



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68.3% for staff RNs in 2002.¹⁸ Nationally, home health care agencies also report high turnover rates—21% among RNs in 2000;¹⁹ about 6.5% of Kentucky RNs work in home health.²⁰ While nursing offers good-paying jobs in the rural areas where many Kentuckians wish to remain and accessible associate degrees permit entrée into the profession, 41% of rural Kentucky hospitals reported having unfilled nursing jobs in 2002. Further, the number of nursing associate degrees, the pool from which half of Kentucky nurses have been drawn,²¹ and bachelor's degrees from the state's public and private colleges has been falling since the mid-1990s.²² While more than 1,000 nursing jobs are expected to open annually here until 2006,²³ supply may not be adequate to meet the health care needs of aging citizens.

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To date, 16 states have responded to the nursing shortage with laws or bills that would mandate nurse-patient ratios in acute care facilities, prohibit mandatory overtime, and/or require universal adoption of standards that calculate nursing needs based upon the intensity of patient illness.²⁴ Here, the KHA has undertaken a recruiting campaign, and the Kentucky Higher Education Assistance Authority has created a loan-forgiveness program in return for in-state service. As understanding of the extent, costs, and consequences of the nursing shortage increases, further efforts to address it are likely to emerge. In the interim, the shortage also could hasten the retreat from managed care even as it fuels rising costs.

¹American Hospital Association (AHA), *AHA Trend Watch* 3.2 (2001); ²Occupation Employment Projections to 2010," *Monthly Labor Review* Nov. 2001; ³Spratley et al., *The Registered Nurse Population, March 2000* (Washington: US Dept. of Health and Human Services); ⁴Peter I. Buerhaus and Douglas O. Staiger, "Trouble in the Nurse Labor Market: Recent Trends and Future Outlook," *Health Affairs* 18.1 (1999): 214-222; ⁵Spratley et al., and Buerhaus and Staiger; ⁶Spratley et al.; ⁷AHA; ⁸Spratley et al.; ⁹Spratley et al.; ¹⁰Kentucky Hospital Association (KHA), "Kentucky Workforce Shortage Survey," 2002; ¹¹Steve Friess, "U.S. Looks Abroad for Nurses," *USA Today*, com 19 Aug. 2002, 20 Aug. 2002; ¹²Bradley C. Strunk, Paul B. Ginsburg, Jon R. Gabel, "Tracking Health Care Costs: Hospital Spending Spurs Double-Digit Increase in 2001," *Data Bulletin* No. 22, Center for Studying Health System Change, Sept. 2002; ¹³Joint Commission on Accreditation of Healthcare Organizations, *Health Care at the Crossroads* (Washington: Author, 2002); ¹⁴Linda H. Aiken, et al., "Hospital Nurse Staffing and Patient Mortality, Nurse Burnout, and Job Dissatisfaction," *Journal of the American Medical Association* 288 (23/30 Oct. 2002): 1987-93; ¹⁵Jack Needleman et al., "Nurse Staffing Levels and the Quality of Care in Hospitals," *The New England Journal of Medicine* 346.22 (2002): 1715-1722; ¹⁶Health Resources and Services Administration (HRSA) *Projected Supply, Demand, and Shortages of Registered Nurses: 2000-2020* (Washington: US Department of Health and Human Services, 2002); ¹⁷Kentucky Board of Nursing (KBN) online <www.kbn.state.ky.us/license_statistics.htm>; ¹⁸American Health Care Association, "Results of the 2002 AHCA Survey of Nursing Staff Vacancy and Turnover in Nursing Homes," 12 Feb. 2003; ¹⁹*Homecare Salary and Benefits Report, 2000-2001* (2000); ²⁰KBN; ²¹HRSA, *State Health Workforce Profiles: Kentucky* Dec. 2000; ²²Data provided by the Council on Postsecondary Education; ²³Employment Services, *Kentucky Occupational Outlook to 2006* (Frankfort: Workforce Development Cabinet, 1999); ²⁴National Conference of State Legislatures, "Nursing Staffing: Safety for Patients," *State Health Notes* 24 Feb. 2003.