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CONAWAY

PHOTOGRAPHS BY
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DIAGNOSIS: SHORTAGE

The past,
present,
and future
of the
registered
nurse
workforce

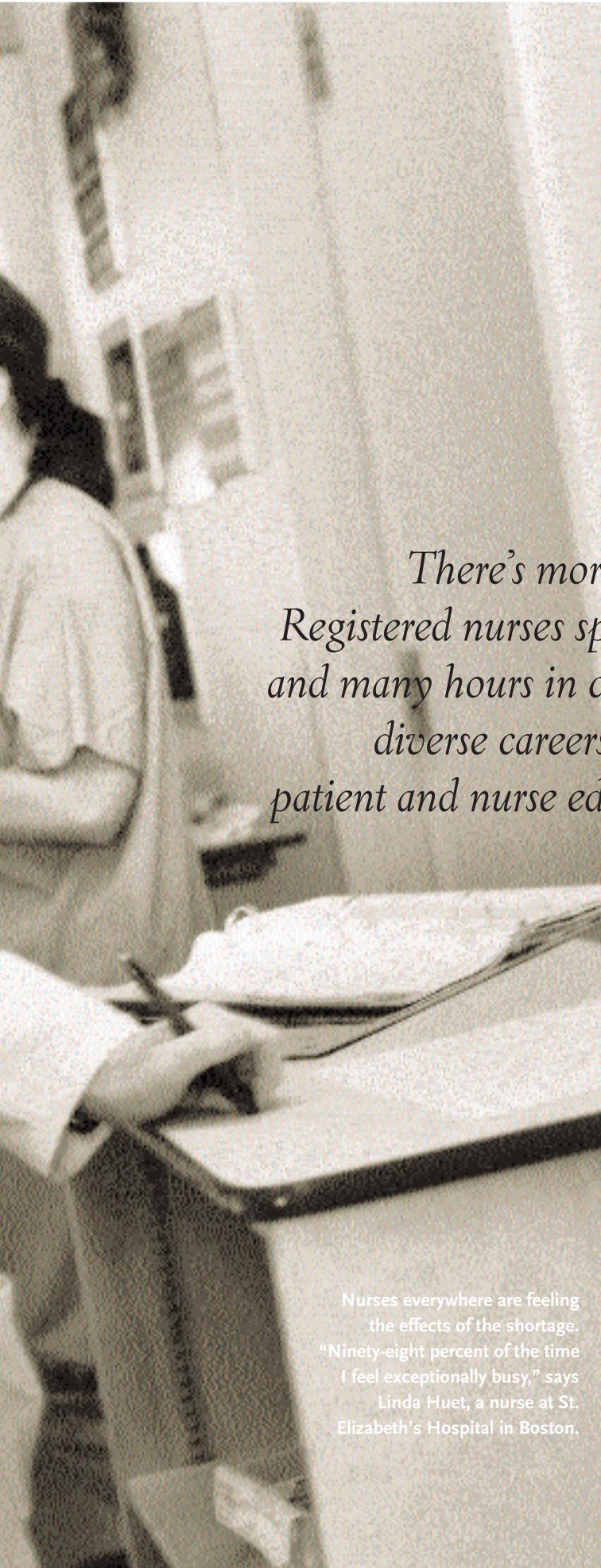


Professional nursing was born of a shortage. The lack of medical personnel on the front lines of the Crimean War in the 1850s meant that British casualties were three times as likely to have died from hospital-borne diseases as from battle wounds. Through their efforts at sanitation, nutrition, and personalized care, Florence Nightingale and her cadre of nurses reduced the mortality rate in British military hospitals from 42 percent to just over 2 percent. This remarkable improvement helped nursing to earn recognition as an essential element of quality health care.

Nurses are just as critical to our health now as they were during the Crimean War, but we still don't have enough of them. The American Hospital Association estimates that in the nation's hospitals, 126,000 registered nurse (RN) positions—11 percent of the total—are vacant. Though hospitals account for 60 percent of RN employment, the lack of nurses extends far beyond the hospital setting. Nursing homes in Massachusetts alone have about 900 open positions for registered nurses. Other employers of RNs, from visiting nurse associations to schools, are also scrambling for employees. At the same time, the nation's nursing schools turned away nearly 5,000 qualified students in 2001 due to insufficient faculty and clinical and classroom space.

The number of nurses is increasing every year, but not quickly enough to keep up with the growing demand for their services. The culprits are both long-term trends, such as expanded opportunities for working women and the aging of the population, and new





factors like the effects of the cost-cutting imperative of managed care. The result is that there are too few RNs to fill all the available positions. And the problem promises only to worsen; by the year 2020, New England is projected to have 33 percent fewer nurses than we'll need.

A DAY IN THE LIFE

"The first thing I do when I get to work is eat breakfast. I always eat at the last possible moment because it might be five or six hours before I get to eat again," says Linda Huet, a registered nurse in the postoperative recovery unit at St. Elizabeth's Medical Center in Boston. Her day is a hectic rush of listening to reports from the previous shift, then checking in repeatedly with each patient to perform clinical assessments and administer treatments and medications. She adds, "Ninety-eight percent of the time I feel exceptionally busy. There's always a reason to stall lunch, and the day goes by quickly." At Hasbro Children's Hospital in Providence, lunchtime in the pediatric intensive care unit is a particularly stressful point in an already frenzied day. The busy work pace kicks into high gear as half

There's more to nursing than meets the eye. Registered nurses spend two to four years in college and many hours in continuing education to train for diverse careers in direct patient care, research, patient and nurse education, and staff management.

the nurses leave to eat their meal and everyone else's workload is doubled. "It can be mentally overwhelming for some people to monitor double the patients in an intensive care setting," says Donna DuPuis, a registered nurse on the floor.

There are over 2.2 million registered nurses in the United States, making it the largest health care occupation. Nurses may practice in almost any setting, from hospitals and nursing homes to schools, corporations, and nonprofit agencies. Those who work directly with patients are responsible for the day-to-day monitoring and documenting of their patients' progress, as well as for administering treatments, medications, and therapies. They are the first line of medical defense when anything goes wrong, and they are also the first source of professional comfort for patients and their families. Other nurses work outside direct practice in patient education, research, and administration. These nurses may run clinical drug trials, teach patients how to use medical equipment, or manage the workload of dozens of employees.

Nursing is a highly skilled profession, requiring two to four years of schoolwork, a passing score on a national competency examination, and continuing education and training. As a result, starting wages for staff nurses are relatively high compared to other professional occupations. The average new RN earned

Nurses everywhere are feeling the effects of the shortage. "Ninety-eight percent of the time I feel exceptionally busy," says Linda Huet, a nurse at St. Elizabeth's Hospital in Boston.

around \$31,000 per year in 1996, similar to the starting salaries for engineers and much higher than the overall average for new college graduates. Opportunities in the field are broad, and the caring labor nurses perform means that they have a direct impact on people's lives every day. But even on a good day, "nursing is physically as well as mentally intense work," according to Lisa Murphy, Huet's supervisor and the director of surgical services at St. Elizabeth's. Nurses complain that their wages do not grow adequately with experience and do not reflect their high level of responsibility. Every day, they face evening, overnight, and weekend work, the possibility of contracting a disease or injuring themselves on the job, and the emotional stresses of dealing with sick people. Furthermore, they feel their work is underappreciated by the public. Though a recent Gallup poll showed Americans rate nursing as the occupation with the highest ethical standards, nurses say this doesn't translate into respect for their work. Murphy says, "People think nursing is bed pans and back rubs, or being a handmaiden to doctors. They don't understand the responsibility and the training that go into it."

Making matters worse, lately many RNs feel there aren't

enough nurses to go around. "I spend much of my day trying to make sure there are enough workers for each shift to cover all the patients," reports Murphy. "We're maintaining our quality of care, but on a day-to-day basis it's challenging. Our nurses are definitely busier." Nurse managers like Murphy across the country are having difficulty filling empty positions, especially in specialty care areas such as intensive care and emergency departments. "It's a matter of lack of human resources. We have no nurses to hire," says Veronica Hychalk, Vice President of Professional Services at Northeast Vermont Regional Hospital in St. Johnsbury, Vermont, and New England's representative to the American Organization of Nurse Executives. Because of the scarcity of staff, nurses say they are now expected to work with more and sicker patients than ever before. This has quickened their work pace and decreased the amount of time they can spend with each patient. Insurance regulations have increased the amount of paperwork they must contend with. Additional use of temporary staff has meant that nurses must spend more time training new workers on department procedures. And if managers can't find enough staff to cover all the shifts, nurses may be asked or required to work overtime.



Finding enough nurses to cover all the shifts is one of nurse manager Lisa Murphy's daily challenges at St. Elizabeth's Hospital.

PRESCRIPTION FOR A SHORTAGE

Having more nurses on the job would probably help alleviate some of these problems. But does this mean that there is a nationwide shortage of nurses? It's hard to say. There might not be enough nurses overall, or we might have enough nurses but need to better distribute them across specializations, employers, or regions. We have no official economic definition of a shortage to guide us, or even a consistently gathered set of data that compares national staffing trends over time. However, some characteristic symptoms often indicate that a shortage is in the offing.

One bellwether of a shortage is the vacancy rate, or the percentage of budgeted positions that are unfilled. New England's hospitals currently report that an average of 7 to 12 percent of their registered nurse positions are vacant, the highest levels since the last shortage in the late 1980s. Connecticut is in the worst shape in the region, with a vacancy rate of nearly 12 percent; in 1996, it was only 4.5 percent. In contrast, Vermont has a relatively low vacancy rate, at 7.8 percent. But its vacancies were at 1.2 percent just five years ago.

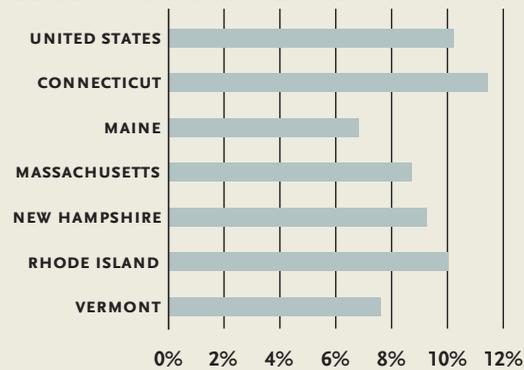
Another symptom is the increased use of stop-gap measures to fill empty positions. For instance, many nurses report an upswing in how frequently they are asked to stay past their shifts. According to Murphy, at St. Elizabeth's "the shortage has definitely created a lot of opportunities for overtime for our nurses, whether they want them or not." Similarly, a national survey of registered nurses shows that in an average week, nurses in the U.S. work 2.4 more hours than they are scheduled for. Much of this extra time is voluntary, as nurses earn overtime pay when they stay to fill in blanks in the schedule. But when volunteers fail to plug all the holes, health care facilities must occasionally require RNs to stay for mandatory overtime to ensure enough staff are on duty.

When they can't fill open positions by more traditional means, health care providers hire temporary staff to tide them over. Itinerant workers known as travel nurses comprise the largest part of the temporary health care workforce, hired for thirteen-week stints at health care facilities facing short-term deficits of workers. Temporary workers, mainly nurses, cost hospitals \$7.2 billion in 2000. Likewise, in tight labor markets employers start to recruit staff for permanent positions from outside their region or even outside the United States. In 1996, 36 percent of the nation's RNs had received their training in a dif-

Missing in action

Many nursing positions remain unfilled everywhere, but the extent of the problem varies across New England.

% OF BUDGETED HOSPITAL RN POSITIONS VACANT IN 2001



NOTE: Maine and New Hampshire data are from 2000. Massachusetts data include only staff nurses. SOURCES: American Hospital Association and National Association of Health Care Recruitment, 2001

ferent state than the one in which they were currently located. And 4 percent—110,000 nurses—had trained in foreign countries, mainly in the Pacific Rim.

DECLINING NUMBERS, DECLINING TRUST

All the signs today point toward a nurse shortage. But as recently as 30 years ago, there were plenty of nurses. The influx of workers, especially women, into the labor market in the 1970s had eased the scarcity of nurses that had persisted since the 1940s. Women chose nursing occupations in record numbers; indeed, the children born in the late 1950s produced more nurses than any group either before or since. Falling birth rates since the Baby Boom, however, have meant that the number of people available to go into nursing each year has decreased. At the same time, the proportion of women choosing nursing as a career has also declined. In the early 1970s, nearly 10 percent of women entering college listed nursing as their probable future occupation. By 1998 this figure had dropped to under 5 percent. (Less than 1 percent of men listed nursing as their probable career in both years.)

The combination of declining birth rates and smaller proportions of people entering nursing careers means that each year we produce only half the number of RNs we did 30 years ago, even though the U.S. population is nearly 40 percent larger today. New RNs are not being created fast enough to replace

retirees, so the population of RNs is aging rapidly. "Forty-one percent of the RNs at my hospital are between the ages of 50 and 59," reports Hychalk. "That means that by the year 2012, 41 percent of my staff will be at retirement age."

These changes in occupational choices and population composition have contributed to the periodic shortages of nurses since the 1970s, and

Is there a nurse shortage? There's no definitive proof, but job vacancy rates are up, nurses are working more overtime than they want, and hospitals are spending billions of dollars to hire temporary staff and workers trained overseas.

they will continue to play a role in declining nurse availability in the future. But the current situation has been exacerbated by a new factor—the effects of health care industry restructuring. Historically, the health care industry has redistributed its employment of nurses in response to shortages. Deficits of registered nurses in the 1950s and 1960s, for instance, led to

the specialization of nursing duties. Before then, hospitals had used registered nurses for just about every kind of nursing work, from feeding patients and changing sheets through starting intravenous fluids and creating patient care plans. But this meant that these highly trained nurses spent much of their time—by one estimate as much as 65 percent—on duties that did not require their advanced level of expertise. Hospitals solved the problem by hiring licensed practical nurses and nurse aides to handle lower-level tasks, thereby freeing RNs to concentrate on the more skill-intensive work that only they could handle.

In contrast, the changing organization of the health care industry associated with the growth of managed care in the early and mid-1990s may in part have caused the shortage. In the past, delivering health care services was fairly simple; doctors performed procedures on patients and insurance companies paid for them. But under managed care, insurance companies and health plans attempt to reduce expenses by establishing strict policies about which treatments and procedures they will and will not pay for. This new organizational structure has put health care facilities, even those not operated under managed care, under intense pressure to reduce costs in order to remain economically competitive.

As a result of managed care, registered nurses in the early

In the mid 1990s, hospitals were in a quandary. They needed more RNs to take care of an increasingly older and sicker patient load. But nurses were also their biggest expense. When the dust cleared, 38,000 nurses had lost their jobs.

1990s found themselves caught between two opposing economic forces. On the one hand, to achieve their new budgetary goals, hospitals increasingly focused on providing only the most advanced and most technical forms of care, leaving the care of less acutely ill patients to less costly rehabilitation centers, nursing homes, and family members. Patients in hospitals were thus sicker than ever before, and more of them required an RN's expertise. But on the other hand, 25 percent of the average hospital's employees are registered nurses, so nursing labor is a major expense for hospitals. RN payroll became an important opportunity for many administrators to trim budgets in the mid-1990s. "In 1995 and 1996, hospital RN employment declined by 38,000 workers while hospitals added 100,000 aides in an attempt to substitute toward a less expensive form of labor," reports Peter Buerhaus, an RN and senior associate dean for research at Vanderbilt University's School of Nursing. Furthermore, hospitals allowed wages to stagnate. Between 1993 and 1998, RN earnings declined by 7 percent after adjusting for inflation.

"By 1997, hospitals realized that their strategy wasn't cost-effective," says Buerhaus. "Patient admissions were picking up, and the patients got older and sicker every year." Hospitals' attempts to reduce costs by cutting professional nursing staff turned out to be short-sighted. They quickly rehired 40,000 RNs in 1997 and let go 50,000 nursing aides.

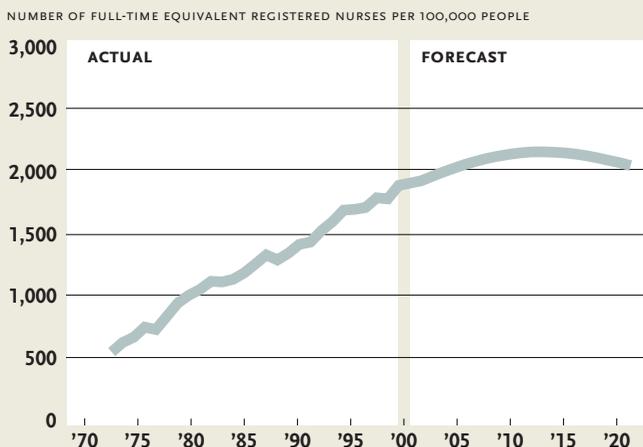
But according to Buerhaus, these cost-cutting maneuvers had real non-economic consequences—ones that are still being felt in the labor market today. "A lot of nurses felt betrayed. They felt that hospitals were cutting costs without thinking about patients or the quality of care. It broke their trust in the hospitals, and hospitals have been struggling to get that trust back ever since."

WHAT'S THE PROGNOSIS?

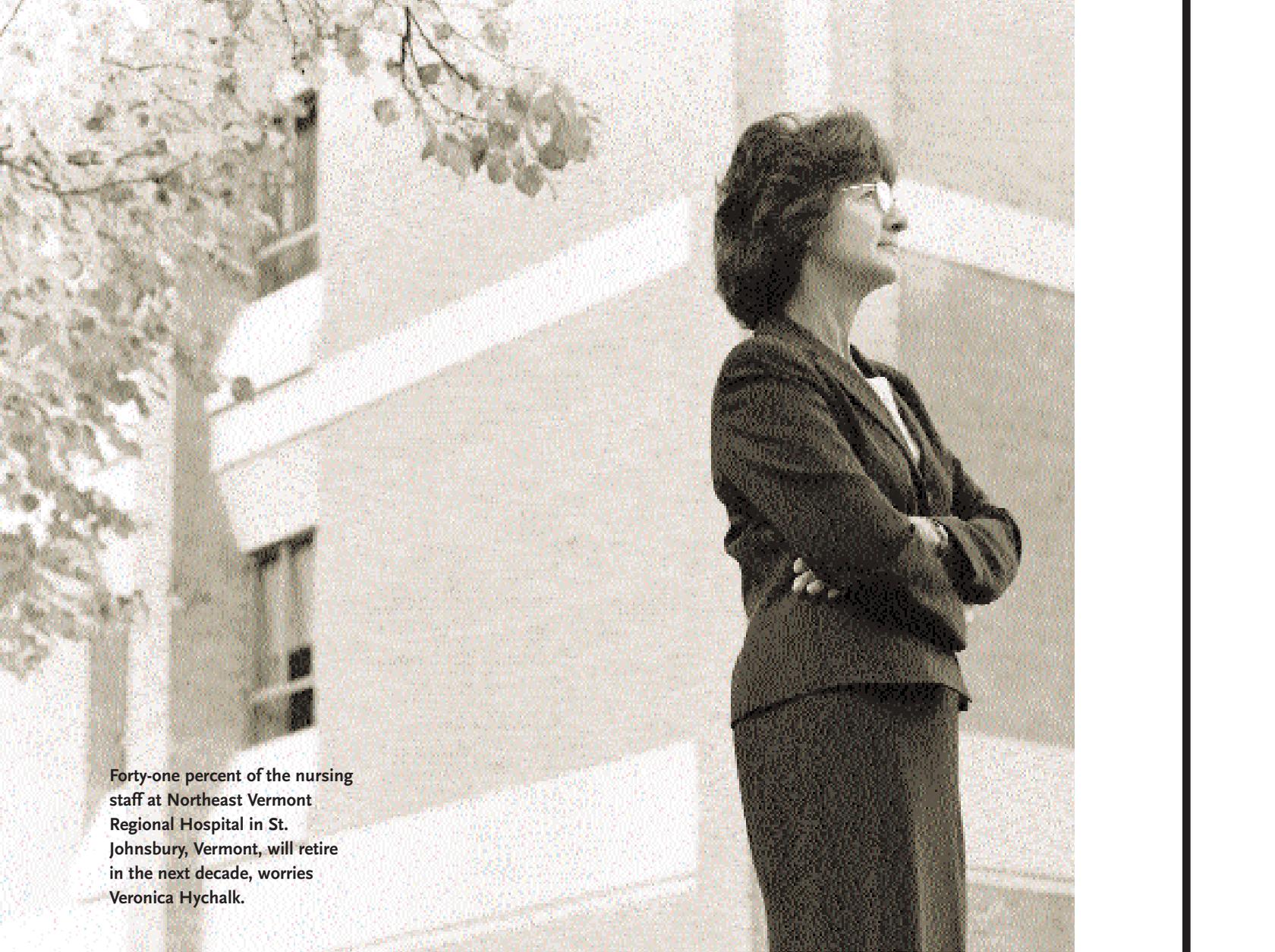
At first glance, it seems that the labor market for nurses is caught between the Scylla of increasing demand and the Charybdis of decreasing supply. There is little doubt that the demand for registered nurses will continue to increase for years to come. The elderly population, a major consumer of health care, is expected to increase

An unhealthy outlook

A 20-year projection indicates a drop in supply and a worsening shortage.



SOURCE: Adapted from Peter Buerhaus, Douglas Staiger, and David Auerbach. "Implications of an Aging Registered Nurse Workforce." *Journal of the American Medical Association*, June 14, 2000



Forty-one percent of the nursing staff at Northeast Vermont Regional Hospital in St. Johnsbury, Vermont, will retire in the next decade, worries Veronica Hychalk.

by 60 percent by the year 2030, according to projections from the Census Bureau. And no end is in sight for the advances in high-technology medical care that make skilled nursing increasingly critical, especially in hospital settings. Health care providers may be able to find replacements for some RNs by reallocating work to lower-skilled nurses or using more technology in place of people. But much of what RNs do cannot be substituted for, and in any event these types of changes won't be enough to completely counteract our growing health care needs. On the demand side, for the most part, we will simply have to wait things out.

On the supply side, however, there is more room to maneuver. At least part of the shortage could be eliminated if wages and working conditions for nurses were appealing enough to attract more people to the profession. Employers seem to be taking note of this; RN wages are starting to escalate after years of stagnation. The U.S. Bureau of Labor Statistics reports that from 1993 to 1997, average inflation-adjusted wages for full-time RNs declined from \$819 per week to \$762 per week (in 2000 dollars). But since 1997 wages have been on the rise, and in

2000 they finally climbed back up to \$790 per week. Employers are also attempting to enhance working conditions by offering incentives such as increased flexibility in scheduling shifts and bonuses to new employees and employees taking on extra overtime. But a lack of financial resources resulting from cost containment measures and low reimbursements from government programs means that many health care facilities simply don't have the money to support these initiatives.

Besides, it's not just wages and working conditions that keep people out of nursing; it's also the public image of what nurses do. "Nurses are extremely intelligent, creative people; we have to be to do our jobs. But we are not portrayed as bright, articulate, or innovative, or as working independently and functioning at a high level," says Mary Anne Gauthier, professor and director of the undergraduate nursing program at Northeastern University in Boston. As a result, people who would make excellent nurses can be dissuaded by misunderstandings about the nature of the job. Men in particular seem to find the nursing image unappealing, perhaps because the occupation has such a strong gender stereotype (95 percent of registered

RNs, LPNs, and NAs—oh my!

A nurse is a nurse—or is there more to it? The staff providing day-to-day care while you're sick might be nurse's aides with two weeks of training, or they might be advanced practice registered nurses with six or more years of professional training, or just about anything in between. Things were different at the advent of professional nursing, when the same nurse performed every element of nursing care, from feeding and bathing patients to monitoring vital signs to creating patient care plans. But today nursing work has been divided among four major types of nurses, each with different levels of training, certification, and specialization.

REGISTERED NURSES (RNs), who work in the largest health-related occupation with over 2.2 million workers nationwide and 148,000 in New England, are the most diverse in terms of their preparation and skills. They may have received their training from a two-year associate's degree in nursing program, a three-year hospital-based diploma program, or a four-year baccalaureate nursing program. In clinical settings, their advanced skill level allows them to perform more complicated tasks such as

assessing symptoms, administering medications, and educating patients. Clinically based RNs may further specialize in clinical areas such as pediatric intensive care or adult critical care. Other nurses work outside direct patient care in fields such as research, patient education, and administration. Because they are so highly skilled, RNs are in high demand in hospitals, which provide the most complex types of care. Registered nurses' median earnings were about \$41,000 per year in 1998.

ADVANCED PRACTICE NURSES (APNs or APRNs) are a subcategory of registered nurses numbering nearly 200,000 workers nationwide. They have completed a baccalaureate degree and then have gone on for several more years of postgraduate training to become nurse practitioners, clinical nurse specialists, nurse midwives, or nurse anesthetists. Depending on their specialization, they earn anywhere from 20 percent to 120 percent more than the typical staff RN; the highest salaries go to nurse anesthetists at about \$90,000 per year.

LICENSED PRACTICAL NURSES (LPNs) provide basic bedside care in hospitals

and nursing homes. They may take vital signs, give injections, apply dressings, or simply observe patients. Their training typically takes about one year at a community college or vocational school and includes a combination of classroom study and clinical practice. They then must pass a licensing examination before they can join the LPN ranks, which number 36,000 in New England. Once their training is complete, they can expect to earn an average of \$27,000 per year.

NURSE'S AIDES and HOME HEALTH AIDES (NAs/HHAs), numbering 130,000 workers in New England, are the least-trained nurses. They receive 75 or more hours of instruction in basic health care provision, typically at a high school, vocational-technical school, or community college. Those who work in nursing homes receiving Medicaid funding must pass a competency examination, but there is no official licensure in this occupation. Their job duties include serving meals, tidying rooms, and helping patients to eat, dress, and bathe. The average income for an aide working full-time, year-round in 1998 was about \$16,000.

nurses are female). For them, even the term "nurse" itself may be enough to keep them out of the occupation since, as Huet says, "Nursing has the connotation of a baby suckling a mother's breast." Others agree, arguing that the only way to interest more men in nursing careers is to change the name of the occupation to emphasize the professional and technical nature of the work.

Enticing more people into nursing will be a challenge. Nonetheless, some area organizations are tackling the issue. For instance, Northeastern University in Boston has developed an accelerated baccalaureate nursing program for more mature students who have already completed the science prerequisites for a nursing degree. The accelerated program can mint a certi-

fied bachelor's-level RN in less than three years, compared to five years for students in the regular program. The Merrimack Valley Area Health Education Center in Lawrence, Massachusetts, is filling its community's need for registered nurses by helping academically underprepared students interested in nursing careers to bridge the gap to college. And the Nursing Career Center of Connecticut is working toward creating a pos-

Schools, employers, and the government are working to increase the supply of RNs by offering scholarships, developing new training programs, and educating people about nursing careers. But will these efforts be enough?

itive public image of nursing by promoting nursing careers to kids as young as elementary school age.

Health care providers are also finding new ways to recruit and retain staff. Some are investing in technology such as patient lifts that reduce the physical strain of nurses' duties, thus helping older nurses to stay on the job. Some are hiring more support staff like respiratory technicians, pharmacists, and dieticians to remove these burdens from the RN workload. Some are offering scholarships or grants to encourage people to choose nursing careers. Northeast Vermont Regional Hospital has taken an innovative approach, forming an alliance with two state colleges to create the first nurse training program in the area in 30 years. The 16 students who entered the program in 2001 are taking courses at the colleges and will do their clinical rotations at the hospital and other local health facilities.

Even the resources and attention of the public sector have been brought to bear on the issue. The state of Vermont, for instance, offers annual scholarships of \$7,500 to nursing stu-

dents who practice in the state for two years. Massachusetts is considering proposals to establish limits on mandatory overtime, to forgive nursing student loans, and to provide bonuses for experienced nurses who serve as mentors. And the proposed federal Nurse Reinvestment Act, if passed, would provide nursing scholarships to students who agree to work in underserved areas for two years after graduation.

Will all these efforts be enough? Only time will tell, but some say we should think bigger. Buerhaus, for one, would like to see a billion-dollar public image campaign for nurses, along with government aid for nursing schools on the brink of financial collapse, for hospitals redesigning the ergonomics of their work environments, and for students going into nurse training programs. But in the end, any successful solution to the shortage depends on convincing more people to become nurses, and that is no easy goal to reach. To achieve it, says Buerhaus, "society needs to place more value on nursing. Legislation can't do that—it has to come from people." *



Mary Anne Gauthier, professor of nursing at Northeastern, hopes that changing the image of nursing will attract more people to the profession.