Milbank Memorial Fund

When Care Becomes a Burden:

Diminishing Access to Adequate Nursing

by Claire M. Fagin

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TABLE OF CONTENTS

Foreword iv

Acknowledgments v

Executive Summary 1

Introduction 3

The First Cause: Changes in the Nature of Hospitalization 4
- Professional versus Personal Care 5
- Patients' Concerns 6

The Second Cause: Hospital Reorganization 8
- Restructuring, Adverse Effects, and Other Outcomes 10
- Magnet Hospitals 13

The Third Cause: Lack of Accepted Expectations about Caregiving 15
- Family Caregivers 16
- Care at Home 17
- A Nursing Shortage? 17

Summary 21

When Care Becomes a Burden: What Can Be Done? 22
- Regulation and Licensing 22
- Financing 23
- Organization of Nuring Services in Hospitals 23
- Role of Governing Boards 24
- Recruiting and Educating Nurses 25
- Caregiving by Family Members and Friends 25

References 27

About the Author 31

FOREWORD

Many patients, their families and friends, physicians, and nurses have complained in recent years about a decline in the quality and availability of nursing services in hospitals. More than a few experienced observers of American hospitals interpret these complaints as evidence of a shift in responsibility for care from professional nurses to less-skilled workers, families, friends, and patients themselves. Others, however, consider the complaints to be exaggerated, viewing them as expressions of the anger of nurses and physicians about the restructuring of hospitals and health systems in response to pressure on prices from managed care companies.

The extent and causes of the problem are obscured by the absence of quantitative evidence about them. In 1997, Claire Fagin, former dean of nursing and acting president of the University of Pennsylvania, and other experts on nursing asked the Fund to convene meetings to discuss whether the perception of the declining quality and availability of nursing care could be documented more precisely. The purpose of documenting the problem would be to suggest remedies for it.

As a result of these meetings and subsequent conversations, the Fund commissioned a journalist who writes frequently about health care to conduct interviews about changes in the adequacy of nursing care with staff nurses, nursing executives, physicians, and chief executive officers at four hospitals. These persons told the journalist many anecdotes about harm or prospective harm to patients from inadequate nurse staffing. But she was unable either to document these stories or to persuade other witnesses to corroborate them.

Fagin and staff of the Fund worked to understand why so many people complained about a problem that was so difficult to document. To assist in explaining this situation, the Fund commissioned Barbara Norrish and Thomas Rundall, of the School of Public Health of the University of California at Berkeley, to write a paper reviewing the extensive empirical literature about the impact of various restructuring projects on nursing care. Their paper, “Hospital Restructuring and the Work of Registered Nurses," is scheduled for publication in the *Milbank Quarterly*, volume 79.1, in March 2001.

Simultaneously, Fagin wrote this report in order to describe perceptions of the problem and plausible explanations for it. The Fund then convened a series of conference calls with nurses prominent in hospital management, education, and research; two former nurses who are elected officials; and a senior executive of a state health care association to discuss the implications of her report for policy. Staff of the Fund summarized their recommendations in the final section of this report. Although crafting the recommendations required the expertise of persons knowledgeable in nursing and politics, implementing them will require a broad coalition of persons within and outside the health sector.

The Acknowledgments that follow list the many people who participated in this project. We thank them for their efforts to clarify and seek remedies for a difficult and important problem.

Samuel L. Milbank
Chairman

Daniel M. Fox
President

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The following persons participated in a planning meeting for this project: Ellen Baer, Professor Emeritus, University of Pennsylvania, and Wallace Gilroy Visiting Professor of Nursing, University of Miami; Sarah Kagan, Assistant Professor of Gerontological Nursing, University of Pennsylvania; Carolyn Boone Lewis, Assistant Director, Division of Investment Management, U.S. Securities and Exchange Commission; Trudy Lieberman, Senior Editor, Consumer Reports; John G. O'Brien, Chief Executive Officer, Cambridge Hospital, Cambridge, Massachusetts.

Suzanne Gordon, an investigative reporter who writes on health care issues, also provided information for the study and made comments on the manuscript.

EXECUTIVE SUMMARY

This report synthesizes research studies, recent journalism, and the author's personal experience to address the problem of the increasing burden of care placed on nurses, patients, and families. The author drew the following conclusions from this work:

- The burden of care for nurses, patients, and families has demonstrably increased since 1990.
- Pressures on families are particularly severe when a patient has been sent home from the hospital after a shortened stay or has received outpatient care for problems that were formerly dealt with in hospitals.
- There is considerable evidence that nurses and families are very concerned about the erosion of care and fearful about hospital safety.
- Nurses report increasing dissatisfaction with their work in hospitals that have cut staff, that require frequent overtime, and that have replaced nurses with assistive personnel. Research has shown that these phenomena are related to adverse nurse and patient outcomes.
- The supply of nurses is tightening, and a severe shortage will occur should present conditions persist. Supply is tightening because the nursing workforce is aging, and the number of students enrolling in nursing programs in 1999 declined for the fifth straight year. Moreover, there is currently a shortage of faculty in nursing schools, leading to an inability to accept enough qualified and interested students. In addition, the average age of full-time nursing faculty has increased. The graying of the nursing workforce, coupled with the declines in enrollment in nursing schools, makes a serious shortage inevitable.

Experts in nursing reviewed a draft of the analytic section of this report. These experts then convened in conference calls to answer the major question raised by the analysis in this report: What can be done to alleviate the actual or potential harm to patients as a result of lack of access to adequate nursing care?

The experts' recommendations for policy initiatives designed to prevent harm by improving patients' access to nursing care fell into six broad categories:

- Regulation and licensing
- Financing
- Organization of nursing services in hospitals
- Role of governing boards
- Recruiting and educating nurses
- Caregiving by family members and friends

The experts addressed their recommendations to a variety of audiences. The principal audiences for the recommended strategies are within the health care sector and include administrators of health services, physicians, nurses themselves, and hospital trustees as well as members of state boards of

nursing. Other important audiences are state legislators and members of the U.S. Congress, public- and private-sector collective purchasers of health services, leaders of education in nursing and medicine, foundation executives, and officials of the federal agencies that subsidize higher education for the health professions as well as clinical and health services research. Some of the recommendations may also be of interest to journalists.

The experts' recommendations for action in the six categories can be found on pages 22–26.

INTRODUCTION

The burden of care is increasing for nurses, patients, and families. Over the past few years, complaints from patients, families, and nurses about hospital care have escalated (Gordon and McCall 1999; American Hospital Association and Picker Institute 1997; American Hospital Association 1997; Gordon 1997, 1999; Norman 1999; Burton 1999). These complaints cover a wide range of concerns, from the seemingly mundane to the critically important. For example, patients' basic needs are sometimes neglected because there are not enough nurses to attend them. Patients and families also express fear and anger because, even when adequately insured, they seldom have the connections or the resources to make sure that they and their loved ones receive proper care. They complain, too, about the unavailability of at-home nursing, and they worry about their vulnerability during the immediate post-discharge period (National Alliance for Caregiving 1997; Levine 1998, 1999).

There is compelling evidence that these burdens of care are increasing. Research attests to the relationship between, on the one hand, nurse staffing, hospital organization, and the quality of relationships between nurses and physicians and, on the other hand, hospital morbidity and mortality rates (Preuss 1998; Kovner and Gergen 1998; Silber, Rosenbaum, and Ross 1995; Hartz, Krakauer, Kuhn, et al. 1989; Aiken, Clarke, and Sloane 2000). Moreover, large-scale experimental research as well as a number of surveys and case studies report a negative relationship between hospital restructuring and patient outcomes, nurses' satisfaction with their jobs, and family pressures in caregiving (Sovie 1999; Gordon 1999; Aiken, Smith, and Lake 1994).

The consequences of early discharges and the resulting burdens on patients and families are less easily measurable, at least thus far. But all the studies attest to the ever-heavier toll that changes in staffing patterns, hospital usage, and home care place on nurses, patients, and families.

This situation has three fundamental causes. The first cause is a profound change in the nature of hospitalization, the kinds of illnesses and conditions of patients treated, and the level of care required. The second is the reorganization of hospitals, which has led to a reduction in the amount of time nurses spend in direct care of patients. The third is the lack of broadly accepted expectations about the caregiving responsibilities that family, friends, and patients themselves ought to assume, both in the hospital and at home, about how this care should be coordinated with the work of professional nurses and other nursing personnel, and about the appropriate ratio of direct-care nurses to patients. This report deals with each of these causes in detail.

THE FIRST CAUSE: CHANGES IN THE NATURE OF HOSPITALIZATION

Hospitals and hospital nursing have changed dramatically since 1990. Changes in reimbursement and demography have, in turn, added to the pressures on hospital systems, on patients, and on caregivers. Inpatient lengths of stay have declined dramatically (by 40 percent between 1980 and 1995) (Reinhardt 1996), and the average acuity of patients is higher in any given unit. Therefore, every patient assigned to an RN requires relatively intensive monitoring and care—a situation that is complicated by the fact that increased demands for documentation mean that caregivers can devote fewer hours to direct care and monitoring.

Advances in knowledge and medical and nursing expertise have enabled a greater number of seriously ill patients to survive. The shortened length of hospital stays, resulting from pressure from insurers, means that more severely ill patients are being discharged sooner to nursing homes, rehabilitation facilities, or their own homes. The major mission of our hospitals has always been acute care, but now, despite the continuing emphasis on acute care, many hospitals are offering a full spectrum of outpatient and community services. Moreover, the way hospitalization is financed and the growing number of chronically ill people and the aging of the population in general are also affecting hospitals' inpatient mission.

In some cases, patient demand is driving changes in health care delivery. Patients and their families may prefer care at home or in a hospice, for example, but the effects of such choices on individual caregivers and on the overall system have not been studied sufficiently.

All these forces have resulted in major changes in the course of a hospital stay. A hospitalization does not have the ebb and flow of former years, when a surgical patient, for example, would typically be hospitalized for a period before surgery, then kept in the hospital after surgery until well enough to care for himself or herself at home. Today, patients are usually admitted the morning of the surgery and may be rapidly discharged—with a variety of medical needs—to be cared for at home by themselves or family members. Further, acutely ill patients, admitted during a medical crisis, are now typically discharged as soon as the most acute phase is over (Gordon and McCall 1999).

These phenomena have led to a two-tier system of hospitalization in which about half of all hospital patients are in and out in one day while others stay for longer periods, ranging from three days to extended stays for complicated treatments. The problems short-stay (or no-stay) patients pose are not necessarily minimal. Some of those who return home quickly need intense care and monitoring during their brief episode in the hospital. In any case, most of those who are in the hospital, whether for a brief stay or an extended period, are in the most acute, nurse-intensive part of their illness trajectory. Hospitals remain the setting where patients are the sickest, where the rate of adverse effects is the greatest (Kohn, Corrigan, and Donaldson 1999), and where patients need the most direct care.

The burden of care for nurses, patients, and their families is dramatically increased by the extremely short hospital stays that have become so common. Some families make sure someone stays with the patient to monitor his or her care, just in case. When families can afford private nursing care, they seek it. The public's concern about the quality of care and about the restrictions placed on hospitalization by managed care organizations has led the U.S. Congress to explore remedies. But the

proposed remedies do not deal with the increased burden of care that shortened stays create. Nor do they consider the context and processes of care required over the trajectory of an illness, from the acute phase through rehabilitation, or possible chronicity, or even to the patient's death. Further, they do not take into account the growth in readmissions of fragile patients who do not receive the care they need at home. Overall the effect of rapid hospitalizations is lack of continuity of patient care even in instances where the nursing workforce has not been cut back.

During the mid- to late 1980s, despite wide recognition that the increasingly high acuity level of hospital patients required more nursing time, nurses were in increasingly short supply. Hospitals applied a variety of solutions to address this episodic, but chronic, nursing shortage with some success. Nevertheless, patients' current concerns about their hospital experiences derive from what they see as the absence of nursing care in the hospital, especially during the immediate post-hospital period. Patient opinion surveys (including one undertaken by the American Hospital Association [AHA] and the Picker Institute published in 1997) and in-depth interviews with patients and families reveal serious problems with nursing functions, including a perceived discontinuity of care and an absence of emotional support and patient education (American Hospital Association and Picker Institute 1997).

PROFESSIONAL VERSUS PERSONAL CARE

Caregiving, whether by professionals or by families or friends, can be an immensely enriching experience, one that immeasurably deepens human connections, but it can also create crushing burdens, devolving into mutual punishment. There is no way to eliminate the core of responsibility and obligation embedded within the caregiving relationship. If the caregiver is not morally, emotionally, and educationally prepared, then caregiving can become a frustrating experience and, for the recipient, an intrusion and a threat rather than a helping connection. Even professional caregivers can become so stressed by impossible demands that they are unable to give the care they would otherwise be able to offer, and their frustration can turn to undifferentiated anger, affecting their performance and inevitably leading to the denial of comfort to patients and families (Gordon 1997).

Consulting firms brought in to help hospitals reengineer their services and achieve cost reductions usually target labor costs. But nurses and physicians often complain that consultants do not seem to understand the complexities of delivering care or to grasp the complex role that nurses play in observing, monitoring, and assessing patients' needs. All too often, cutting professional nursing staff and replacing nurses with nurses' aides or other assistants serve as an easy solution to budgetary problems.

I once had a chance conversation with a man who, I learned, had in the past worked for one of the major consulting companies and had been deeply involved in the restructuring of a number of hospitals. Learning that I was a nurse, he said, somewhat sheepishly, "I'm one of the bad guys." He told me about what he described as his "naive and dangerous period" and was filled with guilt over the restructuring recommendations he had made in his former job. His awakening, he said, had come when his wife had had a baby who required intensive, long-term neonatal care. During the hours and days the couple spent

at the hospital visiting their critically vulnerable infant, they had a chance to see nurses at work expertly caring for—and ultimately saving—their child. In the process, he came to understand what nurses do and how important their job is.

The word *care* has a variety of meanings, and is used to describe both personal and professional activities. But the professional care that nurses are trained to give is in many respects quite different from the personal sorts of caring that characterize relationships between spouses, parents and children, family members, and friends. Professional caregivers are independent decision-makers, whose autonomy of action is legally defined, and they are highly educated specialists who act in accordance with expert knowledge and in ways appropriate to their responsibilities.

When a person's daily life is seriously impaired by illness, age, or disability, he or she may require the assistance of nurses—whether in a hospital, a nursing home, or at home. Unfortunately, many ambulatory settings are poorly suited for nursing activity, a situation that calls for an even higher level of professional knowledge and judgment. In other words, care—the kind of care that nurses render, sometimes under difficult circumstances—consists of much more than giving patients confidence, assurance, and comforting words. Nurses base their practice on exacting professional standards.

The complexity of the care given by professional nurses, however, is only poorly understood by the public at large. The former consultant who watched his baby being cared for understood something of what was going on—most people know good, professional care when they see it—but it is not easy to communicate the specifics of this professional expertise to the lay public. Because "caring" is such a ubiquitous concept, and because the word is used so loosely, nursing care is often seen as intellectually undemanding, a "soft" profession. And this perception has been bolstered by the fact that historically, and in many nations, young men have been forbidden or discouraged from entering nursing, leading people to see nursing as "women's work" and a second-class kind of career. That nursing has been so demeaned has led men and women both to discount it, rejecting careers in professional caring for more powerful, economically rewarding roles.

Many nurses today find that the activities involved in "caring," to which they have devoted their education and their lives, no longer offer satisfaction. A common refrain is, "I love nursing but I hate my job." In times of national emergency, nurses have a record of extraordinary commitment to their patients under the most trying circumstances (Norman 1999). When there is little perceived need for sacrifice, however, and when the demand for herculean effort continues on a prolonged basis, nurses begin to resent the demands placed on them.

PATIENTS' CONCERNS

Patients' concerns about the quality of health care relate to the changed nature of hospitalization and their own hospital experiences. Patients complain about cold and frightening institutions, lack of information, high cost, discontinuity of care, and the difficulty of finding someone to talk with about their concerns. "The key indicator that people [referred] to as a measure of the quality of their hospital

care was the nurse." Most respondents to the 1997 AHA/Picker Institute survey held a strong belief that skilled nurses are being systematically replaced by poorly trained and poorly paid aides. The perceived "thinness" of hospital nurse staffing was reflected in a universally mentioned experience: "If I hadn't stayed in the hospital room with my mother (or child or spouse), they never would have gotten the correct medication or care on time" (American Hospital Association 1997).

These findings rest on considerable evidence: interviews with focus groups and telephone polling of 1,000 registered voters. Adults in 16 communities in 12 states, totaling more than 300 individuals, participated in 31 focus-group interviews. In addition, the AHA conducted interviews with special focus groups of senior citizens, African Americans, members of managed care plans, and women, and, according to the report, "21 human resource managers of small to medium-sized businesses were interviewed to explore how they and the plans they select affect employees' views of the hospitals and hospital-based services they use" (American Hospital Association 1997).

Several journalists have described the results of reductions in clinical staff in hospital settings across the country. Local and national newspapers have reported dangerous situations in tertiary and quaternary care hospitals; for instance, mortality and morbidity caused by medication errors and the removal of the wrong body parts during surgery. Many of these errors have been attributed, at least in part, to changes in organization affecting nurses' surveillance and intervention. It is impossible to judge whether or not these incidents occur more frequently now than they did a decade or more ago, but Americans do link these dire reports to cutbacks caused by managed care. AHA/Picker Institute survey respondents made comments like, "Understaffed, they're overworking the staff," and "We need more high-qualified, trained nurses to staff the hospitals." Respondents often remarked that poor-quality care was caused by "cutting corners" and "greed" (American Hospital Association 1997).

Respondents to surveys consistently say they trust nurses (Kaiser/Harvard 1997). They rate them highest on service to patients, and they believe that nursing care is being cut to improve the bottom line (American Hospital Association 1997). In the AHA's November 1999 newsletter, President Dick Davidson wrote to members about a forthcoming 20/20 television program depicting the state of nursing care in America's hospitals. Although not pleased with the portrait, he urged members to include nurses "in a pivotal seat at the table" and stressed the importance of nurses to patients (Davidson 1999).

In May 1999, in response to patient and nursing concerns about hospital safety, legislation was reintroduced in the U.S. Senate and the House of Representatives that would mandate public disclosures of nursing staff levels, provide protection for nurse whistleblowers who report unsafe conditions, and require health care mergers to be reviewed by the Department of Health and Human Services for their impact on patient health and safety. Similar bills have been introduced in several states, and California passed a bill requiring hospitals to meet fixed nurse-to-patient ratios in October 1999.

THE SECOND CAUSE: HOSPITAL REORGANIZATION

The majority of hospitals in the United States are or have been involved in "process reengineering." A management expert defines this term as "the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service, and speed" (Hammer and Champy 1993). Some studies have revealed adverse qualitative and quantitative effects resulting from aspects of restructuring having to do with personnel cuts and workforce changes.

A survey of 1,000 hospitals performed in 1994 by the Hay Group, a consulting firm, found that 55 percent were actively involved in reorganization and that another 8 percent had completed redesign initiatives (cited in Pierson and Williams 1994). A February 1996 Modern Healthcare report noted that, "from 1993 through January of 1996, 140 hospitals or systems laid off a total of 23,910 workers, or an average layoff of 171 workers per hospital" (Greene 1996). Further, hospital administrators said that they intended to save money by cutting staff rather than by limiting capital improvements or research and development.

Seventy percent of all respondents surveyed by the American Nurses Association in 1997 said their employers were cutting back on staffing by leaving vacant positions unfilled; 66 percent said hospitals had already laid off nurses or were planning to do so; and 67 percent of RNs said the number of patients assigned to them had increased (American Nurses Association 1997). Restructuring plans have led not only to layoffs but to the replacement of registered nurses with aides. Sixty percent of the 7,355 nurses across the country who were surveyed in a separate 1997 study said there were fewer RNs available for direct patient care, and 42 percent said that the substitution of unlicensed assistive personnel (UAPs) for RNs was increasing (Rothschild, Middleton, and Berry 1997).

A 1999 study by Margaret Sovie using data collected in fiscal years 1997 and 1998 found that the responsibilities of 97 percent of chief nursing executives in 32 university teaching hospitals had increased in selected patient services or in all patient services (Sovie 1999). That same study also found that the number of nurse managers had decreased even as their span of control had increased.

In addition, Sovie's study reported a declining number of RNs involved in direct patient care and a growing number of UAPs participating in patient care. (The study also showed that UAPs are being assigned an expanded role in providing patient care.) Although reductions in the number of RNs were intended to reduce costs, Sovie's findings showed that costs per day/discharge were influenced by hours worked per patient day (HWPPD) and paid full-time equivalents (FTE). Thus FTEs and HWPPD were the expense drivers, not the percentage of RNs. In many instances, as RN percentage went down, both FTEs and HWPPD rose since, with fewer RNs and more unlicensed personnel on staff, it took more people more hours to deliver care.

The majority of these changes were cost driven; however, costs per day/discharge decreased as the percentage of RNs increased. That reengineering does not necessarily improve performance but can in fact be detrimental to it was also found in a study that examined cost per patient day at 2,306 urban medical/surgical hospitals with 100 or more beds (Walston 1998).

It is difficult to ascertain the overall skill level of nursing staff at restructured hospitals. The American Hospital Association stopped collecting data on aides in 1993—just as hospitals had begun substituting aides for registered nurses—because, it said, hospitals balked at completing the survey (Aiken 1999). The AHA still collects data on RNs and LPNs, but, as aides are melded with other hospital personnel, it is no longer possible to calculate the nursing-skill mix.

The training of the aides who are replacing RNs is not regulated by state licensing boards. There are no minimum requirements governing the amount of training aides or "cross-trained" workers must have before they can be redeployed (at least part of the time) to do nursing work. Training periods can range from a few hours to perhaps as long as six weeks. Ninety-nine percent of the hospitals in California reported fewer than 120 hours of on-the-job training for newly hired ancillary nursing personnel. Only 20 percent of those hospitals required such aides to have a high school diploma. The majority of hospitals (59 percent) provided fewer than 20 hours of classroom instruction, and 88 percent provided 40 or fewer hours of instruction time (Institute of Medicine 1996).

In April 1999, nurses at several New York hospitals went on strike to protest patient loads and work hours that they deemed dangerous. In a complaint to the National Labor Relations Board, the New York State Nurses Association reported that nurses were sometimes working 20 hours out of 24 and caring for as many as 18 patients (New York State Nurses Association 1999). Many other reports tell similar stories: of nurses dealing with ratios of 1 RN to 10 patients on the day shift and 1 to 15 or even 1 to 20 on some shifts, of nurses being expected to work double shifts, and of a growing demand that nurses work mandatory overtime.

Anecdotal reports from nurses, doctors, patients, and families suggest a dramatic decline in the availability of professional nurses to care for acutely ill patients while hospitalized and during the immediate post-discharge period. Most of these anecdotes contain bitter complaints about the lack of nurses to meet the increasingly complex needs of patients and express genuine concern (often outrage) about the decline in the quality of care provided to vulnerable patients. Of course, personal stories from patients are often challenged as idiosyncratic and those from health professionals are contested because they come from people with "vested interests." Nonetheless, these kinds of complaints and concerns are ubiquitous, and they often come from health professionals with significant experience and who do not have a specific vested interest in a job or an institutional affiliation.

Nurses and physicians report an increase in calls for advice from friends, family, and acquaintances when a hospitalization is imminent. I have received such calls for many years and now get an average of two a week. Some who call ask me to facilitate a hospital stay if I can. Others ask me whether the patient will need a private duty nurse. When I am asked about the need for a private duty nurse I always call the chief nursing officer of the admitting hospital for advice. Until a few years ago the response was a horrified, "Of course not! We have superb nursing care. Your friend will not need a special nurse." Now, the responses are quite different. All the chief nursing officers I have called in the past year have advised arranging for a private duty nurse to be with the patient after surgery, "just to be sure." Of course, not everyone can afford this, nor is it always

appropriate, especially in cases where private duty nurses are not part of a hospital's staff or are unfamiliar with the hospital.

Although the increasing ratio of patients to registered nurses is a major cause of these problems, there is no generally accepted standard for what constitutes an acceptable nurse-to-patient ratio. Rather, ratios are determined for individual hospitals and for specific units within those hospitals. Developing national standards has been viewed as infeasible for a number of reasons. First, as mentioned above, hospital case mix has changed dramatically since 1990 as a result of changing trends in admissions and average length of stay. To evaluate changes in staffing needs over time, it is necessary to adjust staffing ratios for case-mix changes. Second, case mix differs across hospitals and between units within hospitals, making any hospital-specific staffing ratio inapplicable. Third, nursing-skill mix has been shown to be as important as nurse-to-patient staffing in achieving good patient outcomes. Fourth, the full range of a hospital's organizational attributes has an effect on patient outcomes, so hospitals with the same staffing ratios may very well have different outcomes. Fifth, mandated staffing ratios are difficult, if not impossible, to enforce, as is clear from the 1997 Omnibus Budget Reconciliation Act, which specified nursing home staffing requirements—requirements that have yet to be implemented in a large number of nursing homes. Sixth, mandated minimum staffing levels tend to become the "standard" rather than the "minimum," which has an unintended deleterious effect on increasing staffing as a policy option.

RESTRUCTURING, ADVERSE EFFECTS, AND OTHER OUTCOMES

A growing number of studies examine the work of nurses, outcomes of care, adverse effects, and quality of care. For example, half the RNs in a New York State Education Department Survey reported that their workplaces were reducing the number of RNs, and two-thirds of the nurses who had been disciplined for or charged with medication errors reported decreased RN staffing; 71.4 percent of nurses responding to the survey reported required mandatory overtime; and 58.3 percent of disciplined nurses (more than twice the rate of undisciplined nurses) reported working in an institution that had increased its use of unlicensed personnel. The survey also revealed that nurses who had only an associate degree as their basic preparation were more than nine times as likely as those with a bachelor of science degree to be charged with violations. These findings, significantly, tracked almost exactly those noted by the state of Texas in a similar study (State Education Department/University of the State of New York 1996; Green 1996).

Broadening nursing assistants' responsibilities to include seemingly routine tasks, such as bathing, feeding, and conducting sterile procedures on nursing units, has a negative effect on the quality of information available to physicians and nurses and also leads to medication errors, according to a study by Gil Preuss (1998). Further, Preuss found that labor-management cooperation could be positively correlated with a hospital's capacity to respond to changing competitive pressures by altering staffing levels. Extensive cooperation allowed more flexibility in staffing and led to higher

staffing intensity and better financial performance. Preuss postulates that cooperation may enable hospitals to adopt better-performing work practices, decentralize supervisory responsibilities to include employees, and respond flexibly to evolving patient demands, reducing overall patient care costs.

Christine Kovner and Peter Gergen found a significant inverse relation between nurse staffing and post-surgical urinary tract infections (UTIs), pneumonia, thrombosis, and pulmonary compromise (Kovner and Gergen 1998). The researchers compared staffing at 589 acute-care hospitals in the United States. Although they drew no conclusions about optimal staffing, Kovner and Gergen found that an increase of 0.5 RN hours per patient day was associated with a 4.5 percent decrease in UTIs, a 4.2 percent decrease in pneumonia, a 2.6 percent reduction in thrombosis, and a 1.8 percent reduction in pulmonary compromise.

In her 1999 study of 32 university teaching hospitals, Sovie found that an increase in RN staff was associated with a decrease in nosocomial pressure ulcers, an increase in patient satisfaction, and an increase in information exchange on patient status (Sovie 1999). Patient satisfaction with the hospital, with education while in the hospital, and with discharge preparation improved—and patients reported that their needs were attended to more promptly—as nurse/physician collaboration increased. Reduction in serious injuries as a result of falls was related to higher levels of RN staffing and better nurse/physician collaboration. Sovie also reports that unlicensed assistive personnel had a negative influence on patient satisfaction with pain management, satisfaction with the hospital, and satisfaction with the education they received while in the hospital.

Recent studies have shown that close to 20 percent of hospitalized patients have a serious adverse event during their hospital stay (Silber and Rosenbaum 1997; McGlynn, Naylor, Anderson, et al. 1994). RN-to-bed ratio was the single most important factor influencing hospitals' differing success rates in saving patients who experienced serious adverse events, according to Jeffrey Silber and his associates (Silber, Rosenbaum, and Ross 1995). Using the 1991 and 1992 Medis-Groups National Comparative Data Bases, they analyzed common adult surgical procedures, limiting their analysis to patients in Major Diagnostic Categories 6, 7, and 9 (diseases of the gastrointestinal tract, diseases of the hepatobiliary system, and breast biopsy and mastectomy procedures). They ranked hospitals by observed and expected outcomes. The correlation between death and complications declined as predictors were added to the model, and the most important predictor was RN-to-bed ratio.

Failure to rescue is a promising outcome-measure for the evaluation of hospitals because failure rate is governed less by differences in case mix between hospitals and more by specific personnel differences, as Silber has shown in several papers (Silber, Williams, Krakauer, and Schwartz 1992; Silber, Rosenbaum, and Ross 1995; Silber and Rosenbaum 1997). Rescuing a patient who has experienced a complication requires two actions: (1) recognition of an impending or actual complication and (2) rapid intervention. Nurses represent the primary surveillance system in hospitals 24 hours a day. An adequate surveillance system provides enough nurses to observe patients directly so that they can recognize an impending or actual problem. These nurses are the first to mobilize an intervention that often requires the coordination of the activities of others, including physicians, to

save a patient's life. Silber finds nurse staffing even more important than the board certification of physicians, since physicians are usually the second to know about a complication.

The Institute of Medicine's report *To Err Is Human* (Kohn, Corrigan, and Donaldson 1999) describes preventable adverse events as one of the ten leading causes of death in the United States. Extrapolating from several studies, the authors state that, "as many as 98,000 Americans die in hospitals each year as a result of medical errors" and "total national costs . . . are estimated to be between $37.6 billion and $50 billion for adverse events and between $17 billion and $29 billion for preventable adverse events." Though this report does not address the link between nurse staffing, adverse events, and medical error, future studies may reveal more about whether staffing problems have degraded surveillance activities by registered nurses, thus contributing to the major problems the institute has identified.

Nurses contribute to lower mortality rates. In a survey of Ohio hospitals, Anthem Blue Cross and Blue Shield found that St. Elizabeth Hospital in Dayton had the lowest mortality rate; Anthem attributed this result to St. Elizabeth's nursing program. The study looked at adverse outcomes in heart surgery patients and found St. Elizabeth superior even to some extremely well-regarded Ohio hospitals, such as the Cleveland Clinic. According to the survey, St. Elizabeth "employs lots of coronary-service nurses, keeps them focused on this specialty and gives them plenty of power. At a time when most hospitals have been re-engineering and cutting back on nurses, St. Elizabeth seems to have taken the approach that there is no substitute for a reasonable number of highly trained nurses caring for the patient" (Burton 1999).

Expanded management responsibilities and greatly increased patient assignments occurred at six hospitals investigated by Suzanne Gordon (Gordon 1999). Gordon interviewed nurses, physicians, and hospital administrators in two teaching hospitals and four community hospitals. Gordon verified each report of eroding quality of care by conducting an interview with a professional from another discipline at the same hospital. Nurses, physicians, and chief nursing officers all agreed that they could no longer provide the level of care given in the recent past. Both nurses and physicians reported that heavy workloads caused nurses to postpone or miss tasks, and nurses described a troubling erosion of their capacity for empathy because of the difficulty they had finding time to provide even basic physical care. The combination of crowded schedules and inadequate staffing permitted little or no time for education or mentoring of neophyte nurses.

Chief nursing officers told Gordon that nurses' greater workloads occurred mainly because patients were in and out of the hospital so quickly. Administrators said the same thing, but their agreement did not seem to translate into support for bedside nurses. Staff nurses complained of a lack of support from nursing administrators and said they felt they were reliving failed nursing delivery models of the past, such as less expensive substitutes and team nursing. They said administrators blamed them for being inefficient, dismissed them as complainers when they reported problems in patient care, and constantly challenged data culled from their daily experience in providing patient care. Indeed, even though the chief nurse executives interviewed by Gordon agreed that the staff

nurses were overburdened, several criticized their nurses as inefficient and said bedside nurses did not support their complaints with scientific data. All respondents provided detailed examples of how much of the burden of care was shifting to families.

When nurses evaluated hospitals (Rothschild, Middleton, and Berry 1997), reductions in RN staff and loss of the nursing executive were the best predictors for low ratings. Forty percent of the nurses in an American Nurses Association survey said they would not recommend their own hospital to relatives needing care (American Nurses Association 1997). Nurses in hospitals rated "poor" reported increased medication errors and pressure ulcers and twice as many complications following surgery.

More than half the nurses in hospitals rated "poor" or "very poor" said they were unlikely to remain in nursing. This finding is particularly important because nurses are generally extremely loyal to their institutions. The conflict nurses feel between administrative loyalty and loyalty to the patient is one that is now widely discussed. For nurses to blow the whistle or publicly complain about their hospital, negative conditions have to reach very serious proportions. On this score, things have changed dramatically over the last decade or so. Some years ago, I attempted to develop a guide to hospitals through a survey of nurses. Most of the nurses in my pilot study ranked their hospitals as "good" to "very good" despite anecdotal evidence to the contrary from physician colleagues, patients, and even from conversations with the nurses themselves. I feel certain that such a survey would obtain a very different result today.

MAGNET HOSPITALS

The link between nurse satisfaction and patient outcomes has been demonstrated in many studies since the 1980s. These studies have pointed out that higher RN staffing levels, higher nurse-to-patient ratios, an organization that is responsive to nurse autonomy, and positive relations between nurses and physicians are directly related to lowering of mortality rates (Hartz, Krakauer, Kuhn et al. 1989; Aiken, Smith, and Lake 1994).

During the 1980s the public at large as well as clinicians and administrators grew concerned about what many called a crisis in hospital care. Newspaper stories, television documentaries (e.g., CBS Reports' "Nurse Where Are You?"), and governmental, private, and multidisciplinary professional groups devoted attention to the increasing burden of care on nurses in short-staffed hospitals. The shortage, while serious throughout the nation, showed different characteristics of turnover and vacancy rates in different hospital settings.

Noting disparities in hospitals' ability to recruit and retain nurses, the American Academy of Nursing in the early 1980s commissioned a study to identify hospitals perceived as attractive places for nurses to work (McClure, Poulin, Sovie, et al. 1983). The study was intended to provide information that would help to solve the shortage of nurses. Hospitals that met criteria of being good places to practice nursing—that demonstrated ability to recruit and retain nurses and that were located in areas that were competitive for staff—were designated as "magnet" hospitals. The study identified the

following organizational attributes as ones that made these "magnet" hospitals good places for nurses to work:

- Nurses' high status in the organization, as reflected in the formal organizational structure (i.e., a "flat" organization, with few supervisors, in the nursing department and a chief nurse executive with a strong position in the hospital's hierarchy)
- Nurses' autonomy to make clinical decisions within their areas of competence and to control their own practice
- Nurses' control over the practice environment, including decentralized decision-making at the unit level
- Adequate staffing and a limit to the proportion of nurses who were new graduates
- Established mechanisms to facilitate communication between nurses and physicians
- Organization of nurses' clinical responsibilities at the unit level to promote accountability and continuity of care (e.g., primary nursing and relatively infrequent use of floating nurses)
- An established culture signifying nursing's importance in the overall mission of the institution, as reflected in the practice of paying nurses on a salary rather than an hourly basis, institutional investment in nurses' continuing education, and supervisory personnel who supported nurses' decision-making responsibilities

The research of Linda Aiken and her colleagues has demonstrated the strong relationship between organizational characteristics and patient outcome. Hospitals' overall organizational attributes have a greater effect on patient outcomes than do staffing ratios alone (Aiken, Smith, and Lake 1994). Their research on organization and outcomes relating to patients with AIDS has revealed lower patient mortality on dedicated AIDS units and in magnet hospitals, as well as disclosing links between nurse outcomes (exhaustion, needle sticks, etc.) and adverse patient outcomes (Aiken, Lake, Sochalski, et al. 1997). The study found a sixfold difference in mortality rates, adjusted for case mix, in magnet hospitals. Aiken's later work on the effects of restructuring on these magnet hospitals shows erosion in conditions of work, increasing burdens of care on nurses, and a lessening of the difference in mortality between magnets and hospitals most closely resembling them in a variety of characteristics (Aiken, Clarke, and Sloane 2000).

THE THIRD CAUSE: LACK OF ACCEPTED EXPECTATIONS ABOUT CAREGIVING

Nurses, physicians, patients, and families have formed their expectations about care over many decades. Personal experiences, fictional depictions, and anecdotes from family and friends shape notions about care. The concepts *care* and *nurse* are both freighted with complex historical and emotional content. Seldom verbalized, this social legacy contributes to the public's expectations about caregiving. That the nature of hospitalization has changed, that demographic changes have brought different emphases to the health care system, that financial pressures have led to restructured and reorganized systems, and that hospitals have had to alter their mission to suit these financial and demographic shifts—all these developments have been received with gloom and anxiety by patients and potential patients and with concern by nurses and physicians.

At the very least, most patients and families expect a knowledgeable caregiver who provides both physical and emotional care, is with them at crucial times during their hospital stay, responds to calls, explains what is happening to them in a way they can understand, assesses and interprets changes in their condition, and is able to contact the physician or even to "rescue" the patient, if necessary. Patients also expect nurses to make determinations about when and how assistants should perform some of the less complicated kinds of caregiving tasks. They expect that nurses will closely supervise these assistants, and they certainly expect that aides will not jeopardize their health or recovery. In response to surveys, patients and families have indicated their expectations that nurses will help them plan for discharge and follow-up and, as shortened hospital stays require a greater degree of participation in caregiving by family members, that nurses will provide family members adequate education about those aspects of care for which they will be responsible.

Recent changes in what people can expect from nursing and hospital care have not been widely discussed with the public. Nor have changes been discussed with nurses very often. Where they have, as at St. Elizabeth Hospital in Dayton, Ohio, cited earlier, positive results have been achieved.

It is unrealistic, however, to expect to be able to develop the kind of relationship both nurses and patients desire when a typical patient is hospitalized for 24 hours or less. Such brief hospitalizations inevitably lead to disappointment and frustration if expectations remain fixed at levels common as recently as five or ten years ago. Rather, in such situations one should expect an expert nurse, one who provides superb care during the intense time of hospitalization and has the knowledge and connections to coordinate care among hospital nursing staff, the community nursing group, and the family. Ideally, integrated health care systems would look at the entire trajectory of patients' needs—from prevention, to care during acute illness, to rehabilitation and convalescence, and on to wellness, chronicity, or death. Currently, however, many patients find themselves being discharged without meaningful planning for transitional care.

Family members, who have always been important providers of direct care and emotional support for their ill relatives, are today playing even more critical roles. Even when these roles are appropriate, shortened hospital stays and the use of complex medical technology often require some level of professional service at home as well as education for families to help them cope. Family caregivers with long-term responsibilities are vulnerable to physical and emotional problems. But

these problems are rarely mentioned in discussions of early discharge or maintenance of ill patients at home, and they continue to worsen since there is often no provision for transitional care. There is strong research showing the cost-effectiveness of transitional care given by advanced practice nurses. One randomized controlled study that followed 363 patients for 24 weeks following discharge found fewer total rehospitalizations, fewer patients with multiple readmissions, and fewer hospital days per patient—with a total saving of $600,000 in the group that had transitional nursing intervention (Naylor, Brooten, Campbell, et al. 1999). This study follows upon others demonstrating the cost-effectiveness of advanced practice nurses in transitional care (Brooten, Naylor, York, et al. 1995).

FAMILY CAREGIVERS

The increased burden of care on nurses entails an increased burden of care on family members. The number of caregiving households grew by 278 percent between 1987 and 1997, according to a study by the National Alliance for Caregiving and the American Association of Retired Persons. The final sample included 754 caregivers, and the 1997 survey also included a supplemental sample of 755 households representing black, Hispanic, Asian, and other nonwhite households for a total sample size of 1,509 (National Alliance for Caregiving 1997). The estimated nationwide prevalence of households providing care for an elder grew from 7.8 percent in 1987 to 22 percent in 1997, tracking the increase in the number of Americans over age 65 from 28 million to 34 million during the same period. According to the study's authors, the increase in caregiving suggests that many Americans are involved in giving care to an elder and often are assisted by a sibling or other relative (National Alliance for Caregiving 1997).

Caregivers describe traumatic transitions caused by changes in or deterioration of patients' conditions, abrupt discharges from hospitals, worries about neglect and staff insensitivity in hospitals and nursing homes, and a lack of information from hospital staff. Moreover, these transitions are expensive. For example, Carol Levine, director of the United Hospital Fund's Families and Health Care Project, and Peter Arno, a health care economist, conducted a study to assess the economic value of family caregiving. They found that if these "more than 25 million individuals were compensated, . . . the cost would amount to nearly $200 billion per year, . . . [dwarfing] annual home health and nursing home care expenditures—$30 billion and $79 billion, respectively." (Levine 1998).

The Families and Health Care Project also conducted focus groups of family caregivers to explore the issue qualitatively, and Levine reports that "caregivers . . . spoke about how the health care system often fails to provide them with the technical, practical, and emotional support they need to fulfill their caregiving responsibilities" (Levine 1998). Caregivers described a serious lack of communication with the system—a failure that led them to become confused and demoralized. Levine offers examples of the caregiving experience at critical times in patients' and families' lives and provides direct evidence that the burden of care has increased for patients and families and indirect evidence that it has increased for nurses and other health care providers. The theme of "no one there when you need

someone" is vividly depicted in this research, as well as in Levine's own poignant story of her experience as a long-term caregiver (Levine 1999). She says, "Family care givers are largely invisible, as individuals and as a labor force." Her contacts with health care providers—physicians, nurses, and social workers—are characterized by harshness, lack of empathy, and lack of support, and the messages they give her let her clearly know that she is on her own. She feels abandoned by a system that commits almost all its resources and rewards to rescuing the injured and the acutely ill. According to Levine, "Managed care did not create this problem, but it seems to have exacerbated it."

CARE AT HOME

Carol Levine's personal story as well as her research findings are reiterated by many others. Although providing care at home has never been problem-free, the difficulties definitely seem to be burgeoning. Care at home has been regulated only with regard to certification for Medicare reimbursement, and accreditation by voluntary organizations has only a brief history. In May 1984, the Reagan administration's introduction of the prospective payment policy for hospitals generated consumer concern about unmonitored home care. Between 1984 and 1994, accreditation programs developed and were recognized by the Health Care Financing Administration, which made accredited home care agencies eligible for reimbursement under Medicare. These programs are under the auspices of the Community Health Accreditation Program of the National League for Nursing and the Joint Commission on the Accreditation of Healthcare Organizations. While voluntary accreditation gives a stamp of approval to many home care agencies and provides a level of assurance to patients, the implementation of the Balanced Budget Act of 1997 reduced access to services. Reimbursements were sharply cut for these agencies (as they were for several other services, such as rehabilitation facilities and Medicare-reimbursed medical educational activities).

Federal actions have ameliorated some of the problems, though home care nurses are still reporting increased caseloads because of sharp reductions in staff and more than 2,000 home care agencies have closed (National Association for Home Care 1999). Many home care agencies are seeking to merge or to be acquired. The restoration late in 2000 of some of the cuts made in the Balanced Budget Act of 1997 will resolve or postpone some of these problems.

A NURSING SHORTAGE?

The nursing shortage "crisis" has occurred cyclically since the 1950s. When hospitals were eager to employ more nurses, schools of nursing responded with shorter programs—for example, by offering associate degrees—and by expanding programs to admit as many interested, qualified applicants as possible. These cycles of "shortages" have been followed by claims of oversupply (Ginzberg 1978; Pew Health Professions Commission 1995), which in turn have led to reductions in applications to schools of nursing and, inevitably (and often within a few years) to more outcries over the shortage of nurses.

The nursing shortage of the 1980s was, however, a genuine crisis. There were too few nurses to fill nursing positions despite the extremely high rate of RN employment in the nursing workforce. People facing hospitalization were fearful that they would have no nurse to care for them, and experience often confirmed these fears. Governmental and private groups convened meetings and authorized studies on the problem. Hospital administrators sought new solutions and offered higher salaries, bonuses, and other perquisites to help in recruitment and retention. Troubled by the severe shortage of nurses and a shrinking pool of students interested in nursing, the University of Pennsylvania School of Nursing and the Pew Memorial Trust called together 40 of the nation's leading experts to discuss the problem and develop strategies for the future (Nurses for the Future 1987). Terming nursing history a "yo-yo," Joan Lynaugh, a participant in those discussions, talked about the strings that make nursing rise and fall. She said that over time nurses have represented a cheap, disposable "quick fix" to hospital needs. Moreover, would-be nurses are very responsive to news reports and perceptions of job-market changes and are more quickly discouraged by family and friends than are aspirants to more prestigious professions.

By the early 1990s, demand-side strategies had for the first time increased nurses' salaries and improved their conditions of work. As these labor market strategies took hold, various studies showed that such incentives improved patient outcomes, recruitment and retention of nurses, and recruitment of students into nursing programs (Donaho and Kohles 1996). Yet now, at the start of the 21st century, a deceleration "in the rate of employment growth for RNs . . . coincides with a noticeable decrease in earnings"; wage growth fell 1.5 percent annually between 1994 and 1997 (Buerhaus and Staiger 1999). Economic exigencies have led to a rejection of the lessons of the early 1990s, and patients and families are again expressing great concern about the lack of nurses and nursing care during hospitalization.

Until late 1999, many experts insisted that there was no nursing shortage in the United States. While opinions differed on the number of nurses needed and on how registered nurse credentials ought to be defined, there was until very recently widespread agreement that the United States had an ample supply of nurses to accommodate its population's needs (Institute of Medicine 1996). This consensus has, however, collapsed as hospitals in various regions have seen positions go unfilled (Coffman and Spetz 1999). Hospitals in many parts of the country are offering sign-on bonuses and other incentives to attract nurses. California, where large cutbacks in hospital staff first occurred, "has been starved for nurses for more than a year" (Moore 1998). Recent surveys by several national organizations document shortages of experienced nurses with specialized skills. The U.S. Department of Health and Human Services projects a significant national nursing shortage by 2010. A survey produced by its Division of Nursing provides some background: "Catalysts for the impending registered nurse shortage include declining baccalaureate nursing enrollments and an aging workforce. The largest cohort of nurses is 44 years old and will begin retiring as demand for health care from aging baby boomers increases" (Division of Nursing 1996).

Current reports on labor market conditions for nurses say that in some regions there is reduced demand for RNs in hospitals and home care and a slowdown in wage growth (Buerhaus and Staiger

1999) while in others there are reports of signing bonuses and other enhancements to recruitment. Many hospitals are now seeking nurses experienced in specialty areas. This may represent a reversal. In the cutbacks recommended by consultants and followed by many administrators, nurses who were most prepared and experienced, and who commanded the highest wages, were let go first. Neophyte nurses were left without in-service education and support from experienced nurses while, at the same time, they carried heavy patient-care loads and were expected to supervise assistive personnel.

The quick fix of replacing nurses with a cheap labor force and eliminating, to whatever degree possible, leaders in the nursing hierarchy who performed clinical or clinically supportive roles has led to a demoralized and highly stressed bedside nurse workforce.

Young nurses working in stressful situations, without the support and consultation of senior nurses, is a phenomenon more reminiscent of World War II than of most of the half-century following. During the war, student nurses staffed hospital wards with little supervision and were responsible for entire units on evening and night shifts. Similarly, young graduates today report being responsible for 18 acutely ill patients with the help of only one or two unlicensed assistants and no senior nursing personnel available for support or teaching.

The nursing shortage of the 1980s ended with a dramatic change in pay scales for nurses and improvement in their autonomy, control, and relations with physicians (McClure, Poulin, Sovie, et al. 1983), conditions that have positive effects on patient care and mortality. But we are now for the most part seeing erosion in these conditions of employment. And current data suggest pessimism about the supply of nurses in the future. The American Association of Colleges of Nursing (AACN) reported five years of uninterrupted decline from 1995 to 1999, including a drop of 5.5 percent in baccalaureate enrollments in the fall of 1998 and a further decrease of 4.6 percent in fall 1999. This is the longest period of consistent decline since collection of these data began in 1981. These data may in part reflect negative press on hospital restructuring initiatives.

Perhaps more important, though, nurses themselves are discouraging potential students from entering the profession because of their own disillusionment about what they view as the erosion of care. Given the vast opportunities available to educated women today, jobs that can be perceived as demeaning are not attractive.

The decline in baccalaureate enrollments is more serious because chief nursing officers (CNOs) in university hospitals prefer to hire nurses who have a bachelor's degree (University HealthSystem Consortium 1999). Seventy-two percent of these directors mentioned a difference in practice between B.S.N.-prepared nurses and those who have only an associate degree or hospital diploma, citing critical thinking skills and leadership ability. The CNOs further stated that nursing programs are not preparing enough baccalaureate graduates to meet their needs.

Moreover, schools of nursing report serious shortages in qualified faculty. According to the AACN, some schools are unable to take qualified students because they do not have the faculty to handle expanded numbers. The average age of full-time nursing faculty was 55 in 1997 (American Association of Colleges of Nursing 1998). A recent study found that the average age of working RNs

increased by 4.5 years between 1983 and 1998, and the number of full-time-equivalent RNs has declined significantly. If this trend continues, the researchers said, the RN workforce will not meet projected long-term workforce requirements (Buerhaus, Staiger, and Auerbach 2000). These data portend a crisis in the coming years. Because nurses are key health care personnel and provide services on which the entire health care system depends, the resulting, even more acute burden of care placed on nurses will have a dramatically negative impact on the health care system as a whole (Jaklevic and Lovern 2000).

SUMMARY

The preceding description and analysis lead to these conclusions:

1. The burden of care for nurses, patients, and families has demonstrably increased since 1990.
2. Pressures on families are particularly severe when patients have been sent home from the hospital after a brief stay or have received outpatient care for problems that were formerly dealt with in hospitals.
3. There is considerable evidence that nurses and families are very concerned about the erosion of care and fearful about hospital safety.
4. Nurses report increasing dissatisfaction with their work in hospitals that have cut staff, that require frequent overtime, and that have replaced nurses with assistive personnel. These phenomena are related to adverse nurse and patient outcomes.
5. The supply of nurses is tightening, and a severe shortage will occur should present conditions persist. The nursing workforce is aging, and the number of students enrolling in nursing programs in 1999 declined for the fifth straight year. There is currently a shortage of faculty in nursing schools, leading to an inability to accept enough qualified and interested students. Further, as with the clinical nursing workforce, the average age of full-time nursing faculty has increased. The graying of the nursing workforce, coupled with the declines in enrollment in nursing schools, makes a serious shortage inevitable.

WHEN CARE BECOMES A BURDEN: WHAT CAN BE DONE?

A number of nursing experts reviewed a draft of the preceding pages. These experts (who are listed in the Acknowledgments) then convened in conference calls to answer the major question raised by the analysis in this report: What can be done to alleviate the actual or potential harm to patients as a result of lack of access to adequate nursing care?

The experts brought a variety of pertinent experience to their task. One is a leader of a national nursing organization. Another works closely with hospital trustees. Others are leaders in nursing education, research and policy, and care delivery systems.

The experts' recommendations for policy initiatives designed to prevent harm by improving patients' access to nursing care fell into six broad categories:

- Regulation and licensing
- Financing
- Organization of nursing services in hospitals
- Role of governing boards
- Recruiting and educating nurses
- Caregiving by families and others

The experts addressed their recommendations to a variety of audiences. The principal audiences for the recommended strategies are within the health care sector and include administrators of health services, physicians, nurses themselves, and hospital trustees as well as members of state boards of nursing. Other important audiences are state legislators and members of the U.S. Congress, public- and private-sector collective purchasers of health services, leaders of education in nursing and medicine, foundation executives, and officials of the federal agencies that subsidize higher education for the health professions as well as clinical and health services research. Some of the recommendations may also be of interest to journalists.

REGULATION AND LICENSING

The experts discussed the difficulties of addressing the problems of the burden of care through regulation. They thought that one recommendation that has received some public discussion—mandated staffing ratios—was likely to be ineffectual. They noted that ratios frequently establish ceilings rather than floors and are often interpreted too literally to permit effective management of patient care. Moreover, most of the ratios proposed to date do not take sufficient account of staff mix and experience, patient acuity, and the availability of support services.

The experts did, however, make the following positive recommendations for action by public-sector regulators:

- Establish standards for safe patient care, while acknowledging the extraordinary difficulty of doing so.

- Establish training standards and competency (certification) exams for previously licensed personnel, through both national and hospital-based strategies.
- Find new ways to regulate the sites in which nurses practice. Such regulations might include requirements that address the issues discussed in this report (for example, closing beds when RN staff is reduced below a particular level and adding clinical nurse specialists to units).
- Require that clinical assignments be given only to persons qualified to perform them.
- Require that all staff performing clinical tasks be properly identified.
- Prohibit the use of mandatory overtime for nursing personnel.
- Encourage state legislatures to establish commissions on nursing to address issues of regulation as well as the adequacy of the supply of nurses, as has occurred, for example, in Maryland and California.
- Create a nursing assignment registry that provides information about training and background in ways that earn the respect of members of the profession and others.
- Establish licensing requirements that reflect the different capabilities of nurses with different educational credentials, in response to employers of nurses redesigning jobs and rewards that reflect differences in education.

FINANCING

In financing, the experts identified problems of policy rather than solutions; these included the following:

- There is an absence of effective reimbursement incentives for quality care in general and nursing care in particular.
- There is a lack of funding for clinical training costs of nursing education—in particular, the need to revise Medicare's nursing education payment policies so that they are parallel to Medicare payments for graduate medical education.

The experts recommended the continuation and expansion of national efforts to address these problems, which are at an early stage of discussion. One suggested creating policy to target increases in reimbursement for nursing and other direct patient services.

ORGANIZATION OF NURSING SERVICES IN HOSPITALS

The experts concurred that a major problem hindering both the recruitment and the retention of nurses is professional nurses' loss of control over the circumstances of their practice, even as they are being held accountable for the quality of nursing care provided. In this environment, it is particularly important, the experts said, to have a strong chief nurse executive with the formal power to act as an

advocate for both patients and nurses. The experts noted that while the actual number of nurses is at an all-time high, many nurses choose to work in health care settings other than hospitals or, indeed, in other sectors of the economy.

The experts emphasized that problems in hospital management and organization can lead to clinical errors. Where surveillance systems are inadequate, the experts said, clinical errors are more likely to occur. Nurses have been an important resource to patient care teams that have been successful in improving hospital systems. Achieving an optimal balance between management responsibility for costs and the effectiveness of systems, staffing, and oversight of nursing services and creating working conditions in which nurses can exercise their professional judgement and skill is an important goal.

The experts offered the following recommendations to address these issues:

- Adopt the ANA Principles of Nurse Staffing, either as an industry standard or by regulation.
- Require hospitals to report nurse-to-patient ratios publicly on a regular schedule. (Note: This is not a recommendation of required nurse-to-patient ratios.)
- Establish protocols to prevent the circumvention of technologies designed to prevent medical errors (for example, turning off alarms that would alert staff to problems).
- Establish a more effective standard hierarchy of expertise in nursing service; in particular, establish as a norm the strong presence of persons with substantial recent clinical experience at the highest levels of management as well as in team leadership in patient care areas.
- Provide opportunities for education and career progression for all hospital positions.
- Encourage hospitals to improve working conditions in order to be eligible for Magnet Hospital Recognition, awarded by the American Nurses' Credentialing Center.

ROLE OF GOVERNING BOARDS

The experts sensed a relative lack of involvement of governing boards in assessing and improving the quality of care and, as a result, in the issues of care of greatest concern to nurses. Several members of boards who participated in early discussions about this report expressed the same concern.

The experts recommended that hospital governing boards

- Become more systematically involved in overseeing the quality of care in their institutions and in ensuring compliance with applicable laws and regulations, including those that are important for maintaining an appropriate workplace environment.
- Request that the senior nurse executive attend all board and executive committee meetings.
- Elect more nurses to hospital boards as part of a general policy to reflect in governance the diversity of persons whom the institutions serve and employ.

RECRUITING AND EDUCATING NURSES

Recruiting and educating nurses, the experts agreed, is becoming increasingly difficult. The higher level of acuity of hospital patients creates a demand for nurses with higher-level skills to perform more complicated tasks. Nursing, the experts said, requires managerial skills that involve thinking and judging, not just doing. Yet hospital nurses, adequately prepared or not, are in short and diminishing supply. The problem is made worse both by nurses leaving hospital employment for positions with better working conditions and by nursing schools' problems in attracting young people to nursing when other professions offer more attractive working conditions and compensation. Nursing schools are also experiencing a shortage of qualified faculty to prepare new nurses.

The experts recommended that policymakers in government, provider associations, and nursing should

- Improve working conditions, compensation, and benefit packages for nurses to encourage long-term institutional employment, so that nursing can compete more effectively with other professions.
- Recruit among high school students, college students, and college graduates seeking new careers; this could be stimulated by support from government and philanthropy.
- Tie repayment and forgiveness of educational loans and grants to the recipient remaining in nursing, in hospitals and other health care agencies, for periods of time related to the extent of support granted.
- Make nursing education more efficient by reducing the number of nursing schools in hospitals and community colleges and increasing capacity in baccalaureate and graduate degree programs.
- Increase faculty capacity to educate nurses through the use of distance learning (including Internet-based courses).

CAREGIVING BY FAMILY MEMBERS AND FRIENDS

The experts emphasized that the real costs of nursing care include the unpaid and usually untrained efforts of family members and caregivers. For most people, "good nursing" is an abstract concept until they have direct experience with it or with its absence.

The experts agreed that caregiving by relatives and friends is now a peripheral concern of nurses and other health professionals. In the future it should become a significant area of public discussion and professional concern because the formal system no longer provides all the nursing care required by patients. Some experts view this new situation as a failure of that system; others see it as a logical adaptation to an environment in which an increasingly older population is suffering more chronic illness but in which there are enormous pressures to contain the costs of health services.

To address these concerns, the experts recommended that:

- Government and private payers explore ways to support unpaid caregivers (for example, by providing tax incentives or subsidizing their own health coverage).
- Government and private payers support transitional short-term nursing care in the home following hospital discharge.
- Government and private payers target increased financing to the care provided by advanced practice nurses to patients in transition from hospitals to other settings.
- Hospitals and health systems provide support to caregivers in the home prior to and following the discharge of patients (for instance, through improved training and quicker response to problems).

The experts agree that our health professions and institutions will surely retain a caring mission, both willingly and because of pressures for accountability from regulators, payers, and consumers. As a result, the problems addressed in this report and the paths to solving them described in its conclusion are sure to be debated in the coming years by policymakers in the public and private sectors, members of hospital boards of directors, senior hospital executives, and clinical leaders.

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