MarketWatch

Hospitals' Responses To Nurse Staffing Shortages

Hospitals' actions are having a positive impact, but can it be sustained for the long run?

by Jessica H. May, Gloria J. Bazzoli, and Anneliese M. Gerland

ABSTRACT: Hospitals have used a mix of short-term and long-term strategies to deal with nurse shortages, particularly efforts emphasizing nurse education, competitive compensation, and temporary staff. Interviews with health care leaders from Round Five of the Community Tracking Study indicate that these activities, in conjunction with other factors, have assisted in reducing shortages of hospital nurses. However, hospitals' actions have increased costs and raised concerns about their potential impact on patient care. Additionally, a large degree of doubt exists among hospitals about their ability to meet future nursing needs. [*Health Affairs* 25 (2006): w316–w323 (published online 26 June 2006; 10.1377/hlthaff.25.w316)]

Although recent growth in both registered nurse (RN) employment and nursing school enrollment suggests potential easing of hospital nurse shortages, nurse staffing will likely remain an important issue for health care providers in coming years.[1] Studies forecast a growing gap between nurse supply and demand, with some estimates suggesting a deficit of more than one million nurses by 2012.[2]

Prior studies have described the types of strategies that hospitals have used to deal with nurse shortages. Short-term solutions intended to fill immediate vacancies include increasing salaries, using temporary staff, or offering sign-on bonuses. Longer-term responses for creating more sustained growth in the nurse workforce include providing financial support for nursing education and changing nurses' work environment.[3] Given that the current U.S. nurse shortage is likely to persist, experts have suggested that the typical short-term solutions will likely not solve the long-term shortage.[4] They recommend that more attention be given to long-term efforts to increase the nurse workforce and improve nurses' work environment.

Despite research on national trends in nurse supply and discussion of potential hospital strategies to ease the shortage, limited information exists on exactly which strategies hospitals have implemented and how these strategies have affected hospitals. In this paper, we use data from Round Five of the Community Tracking Study (CTS) to examine these issues. These data are based on interviews with mostly hospital-affiliated respondents in twelve U.S. markets.

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Study Data And Methods

The CTS has tracked changes in the same twelve nationally representative markets every two to three years since 1995–1996.[5] During Round Five in 2005, interviews were conducted with 1,008 respondents in these twelve markets. Interview protocols included questions about changes in the nurse shortage over the past two years and the key ways in which hospitals were responding. Given their expertise, hospital nurse executives were asked about the broadest range of topics related to nurse staffing.

Overall, 188 respondents provided information on nurse staffing shortages and hospitals' responses. The majority (110) were associated with thirty-two hospitals in the twelve markets. The remaining respondents included people who could provide a marketwide perspective, such as health plan medical directors, safety-net representatives, and hospital association representatives.

Several limitations of this study are important to note. Respondents indicated changes in the severity of nurse shortages in a variety of ways; thus, their responses do not provide one consistent measure across hospitals or markets about the changing nature of the shortage. Second, hospitals were not asked to identify all of the strategies they have used to deal with nurse shortages; nor were they asked if such initiatives were new or ongoing. Also, because the hospital organizations studied were generally the most prominent in their markets, the approaches they identified could be atypical. Finally, hospital executives, who might have different perspectives than clinical nursing staff, provided the majority of data included in this study.

Study Findings

Hospitals' responses to nurse staffing shortages fell into two general categories: short-term strategies that respond to immediate staffing needs; and long-term strategies that take longer to implement or have more sustained impact by addressing factors contributing to shortages over the longer run. However, these categories are not absolute: Some strategies could have both immediate and long-ranging consequences.

■ **Short-term strategies.** *Temporary staff.* Three-quarters of study hospitals reported use of temporary staff (Exhibit 1). Hospitals used both per diem nurses and traveling nurses who sign short-term contracts to fill individual shifts and accommodate short-term staffing needs arising from staff vacations or medical leaves.

Despite their prevalence, many hospitals were reducing their reliance on temporary staff, given cost and quality concerns. Of the twenty-four hospitals reporting the use of temporary staff, ten had reduced their use, and four more hoped to do so. However, in two markets with severe nurse shortages (Orange County, California, and Phoenix), hospitals continued to rely heavily on temporary staff.

Ten CTS respondent hospitals reported using internal staffing agencies or float pools to meet short-term staffing needs. Hospitals realize cost savings through this strategy because although internal-agency nurses are paid a premium above staff nurses, this is typically below payments for external-agency nurses. Hospitals also achieve greater confidence in the quality of nursing care because internal pools often rely on nurses currently on staff who are seeking additional shifts or previously employed nurses who desire fewer hours or more flexibility. Other hospitals have created agencies for per diem nurses much like external agencies in that they use outside nurses but require specialized training or a specific level of experience.

This strategy has proved effective for hospitals, often allowing them to reduce or eliminate external-agency staff. At Spartanburg Regional Medical Center in the Greenville, South Carolina, market, the hospital's internal agency allows staff interested in extra shifts to bid down the rate for unfilled shifts within a range that is lower than external-agency rates but higher than staff nurses' rates. This system operates through an online shift auction akin to eBay for nursing shifts, a staffing model used in other fields, such as the airline industry.

Salary and financial benefits. Hospitals also rely

EXHIBIT 1
Nurse Staffing Strategies In Hospitals In Community Tracking Study (CTS) Communities, 2005

	Hospitals reporting (N = 32)	
Short-term strategies	**Number**	**Percent**
Staffing (any)	27	84
Temporary staff	24	75
Internal agencies	10	31
Foreign nurses	6	19
Nurse pay and benefits (any)	25	78
Competitive salary	22	69
Financial bonus	14	44
Flexible schedule	11	34
Other benefits	4	13
Other recruitment efforts	9	28
Long-term strategies		
Educational strategies (any)	31	97
Training nurses	22	69
Nurse orientation	13	41
Support/partnering with schools	11	34
Faculty support	9	28
Clinical rotations site	8	25
Other educational efforts	18	56
Work environment changes (any)	28	88
Care delivery changes	19	59
Physical changes	16	50
Improving communication	12	38
Shared governance	7	22
Have or are pursuing magnet status	16	50
Data collection	14	44
Other retention efforts	20	63

SOURCE: Authors' analysis of Round Five CTS interview data, 2005.
NOTE: Counts of hospitals reporting the use of any strategy within a category do not equal the sum of hospitals pursuing each strategy in that category because some hospitals were pursuing multiple strategies.

on competitive salaries to recruit and retain nurses in a high-demand environment. This strategy generally involves across-the-board wage increases for all nursing staff, not just salary increases targeted to new recruits. Wage increases can certainly have short-term effects on recruitment, especially if other hospitals in the market are slow to adjust their salaries in response. In addition, longer-term effects could arise if more people are attracted to the nursing profession.[6] This strategy was the second-most-common short-term solution reported (Exhibit 1).

Other financial strategies were also common, with 44 percent of hospitals reporting use of sign-on, retention, or referral bonuses or some combination. Although financial incentives are a key strategy, a number of respondents reported that money alone was not sufficient to tie nurses to a hospital if the work environment were unpleasant. As one hospital executive noted, "Throwing dollars at the problem won't necessarily solve the problem."

Many hospitals have also begun using flexible schedules, given nurses' changing demands for balance between work and home life.

About one-third of hospitals reported the use of flexible scheduling, including offering a broader range of shift types and self-scheduling. For example, the Cleveland Clinic began offering two-hour "parent shifts" for nurses with obligations that limit their availability to work long hours. This strategy has allowed units to bring in an extra nurse during particularly busy periods and has attracted a number of nurses back to the field.

■ **Long-term strategies.** *Nurse education.* All but one study hospital reported at least one strategy that involved investments in nurse education (Exhibit 1). The most common educational strategy was training nurses; nine of the twenty-two hospitals reporting a training initiative said that they were expanding training capacity or opening new schools. Through these activities, hospitals are "growing their own" nurses, by operating nursing schools, paying for students' education in return for a work commitment, or providing training and flexible hours for current ancillary staff to obtain nursing degrees. For example, the student nurse extern program at St. Joseph's Hospital and Medical Center in Phoenix has students shadow nurses and receive tuition reimbursement; 98 percent of these students become hospital employees. St. Joseph Health System in Orange County trains environmental services staff (such as housekeeping and maintenance workers) to become certified nurse assistants (CNAs) and then enter a nursing degree program.

"Nursing school capacity remains an important barrier to further investment in nurse education."

Orientation programs for new nurses were the second-most-common educational strategy reported (Exhibit 1). Many of the hospitals reporting this strategy explicitly noted lengthening or redesigning their orientation programs to account for increasingly complex patient care and to promote satisfaction and retention among nurses. At some hospitals, the orientation period is as long as twelve to twenty weeks. During this period, new nurses may be excluded from regular hospital staffing plans or rotate through various units to find the best fit. Four hospitals also reported formal nurse preceptor programs, in which new nurses are paired one on one with experienced nurses during orientation. Some hospitals have also begun to provide specialized training in specific clinical areas.

Hospitals also reported a number of other strategies and fringe benefits focusing on nurse education, including partnerships with nursing schools; serving as a location for clinical rotations; and offering educational benefits, such as paying for advanced education and certification and offering specialized career tracks (Exhibit 1).

However, nursing school capacity remains an important barrier to further investment in nurse education; respondents in ten markets reported limited nursing school capacity as a constraint. This is consistent with national studies showing that although nursing school enrollment is up, many qualified applicants are turned away because there are insufficient nurse faculty.[7] In fact, hospitals' actions to increase nurses' salaries could be exacerbating faculty shortages, because the gap between clinical and academic salaries is widening.

Because nursing schools often have few financial resources to raise salaries, nine CTS hospitals have directly subsidized nurse faculty salaries; loaned their own nurses to serve as faculty, yet paid them with a full clinical-level salary; or assisted local nursing schools in finding faculty. Hospitals' investment in financial support of faculty at external nursing schools could be hindered by union contracts at some universities that prohibit raising pay for only one faculty group.

Nurses' work environment. Hospitals have also recognized the potential for improvements in recruiting and retaining nurses through changes to the hospital work environment. These changes can have an immediate effect if a hospital develops a reputation as a good place to work, but a sustained commitment

and investment in workplace improvement also can have long-term effects.

Twenty-eight hospitals reported making at least one change to nurses' work environment (Exhibit 1). The most common changes were those that affected nurse staffing levels. Nineteen hospitals reported making or planning changes among nurses and ancillary staff, but a majority of these efforts consisted of simply increasing staffing levels. These efforts, although they might improve patient care and reduce nurses' workload, do not involve substantial changes to care delivery.

A smaller portion of study hospitals reported specific changes to nurses' roles and responsibilities that could result in more widespread changes to care delivery and nurse satisfaction. Examples of these efforts include organized teams of clinicians to respond to patients in critical situations (for example, rapid-response teams); support staff that take care of patients' personal care needs (for example, bathing and transporting); and hiring older nurses to handle paperwork and administrative chores.

Half of the study hospitals reported making physical changes to hospital units, such as redesigning nurse workstations or decentralizing pharmacies; many of these efforts were in their initial stages (Exhibit 1). A number of changes also involved new technology, such as increasing automation or implementing electronic medical records, although many of these efforts were not specifically in response to nurse shortages.

Some hospitals also reported making work-environment changes that have been shown to improve quality of care. Half reported that they had either achieved "nurse magnet" status or were planning to apply for it (Exhibit 1). The Magnet Recognition Program, an outgrowth of a 1993 American Academy of Nursing study of U.S. hospitals, has recognized more than 180 hospitals and hospital systems for their performance on quality indicators and standards of nursing practice that contribute to nurse retention and quality of care. Several studies have found greater patient satisfaction and improved patient outcomes in nurse magnet hospitals.[8] Many hospitals viewed attaining magnet status as a key strategy to help them stand out. Two hospitals that are the only magnet designees in their markets noted that this enabled them to recruit nurses who are more experienced and insulate themselves from local nurse shortages.

■ **Short- versus long-term strategies.** Given the variety of strategies that hospitals reported for dealing with nurse shortages, which efforts were they prioritizing, and were these primarily focused on the short term or the long term? More than a third of the strategies identified by hospitals as their primary response focused on nursing education, with hospitals putting great emphasis on investments to train new staff and provide ongoing educational opportunities to improve nurse retention. The distribution of other primary responses to shortages was as follows: Pay and benefits (21 percent of primary strategies); work environment changes (18 percent); recruitment (13 percent); temporary staff (9 percent); and retention (4 percent).

Some variation in the mixture of primary strategies existed across the twelve CTS markets (Exhibit 2). In markets where nurse shortages worsened during the two years prior to the Round Five site visits, hospitals were more likely to identify short-term efforts as their primary response. However, hospitals in these markets did report undertaking sizable investment in nurse training. Additionally, in markets such as Boston and Seattle, where hospitals have been particularly focused on quality improvement activities, a greater portion of hospitals' primary strategies were focused on changes that might both reduce the severity of nurse shortages and improve patient care, by addressing hospital nurses' work environment.

One community with a unique pattern of primary strategies was Orange County. Given existing shortages and the need to comply with state nurse-to-patient ratios, Orange County hospitals placed great emphasis on short-term actions (63 percent of primary strategies) and little emphasis on longer-term efforts focused on the work environment and

EXHIBIT 2
Short-Term Versus Long-Term Staffing Nurse Staffing Strategies In Hospitals, By Community Tracking Study (CTS) Market, 2005

Market	Change in nurse staffing shortages noted by respondents	Percent of primary strategies focused on work environment and retention	Percent of primary strategies focused on nurse education	Percent of primary strategies focused on short-term efforts
Orange County (CA)	Worse	5	32	63
Phoenix	Worse or constant	12	40	48
Cleveland	Worse or constant	15	46	39
Syracuse	Constant	34	41	25
Miami	Better or constant	0	58	42
Little Rock	Better	8	38	54
Indianapolis	Better	14	34	52
Greenville (SC)	Better	18	27	55
Northern NJ	Better	21	18	61
Lansing	Better	31	42	28
Boston	Better	34	20	45
Seattle	Better	50	35	15

SOURCE: Authors' analysis of Round Five CTS interview data, 2005.
NOTE: Percentages might not add to 100 because of rounding.

nurse retention (5 percent of primary strategies). This mix, so heavily weighted toward short-term strategies, is distinct from those of other CTS markets.

Among hospitals in the majority of markets where nurse shortages have eased or remained constant, no real pattern in the mix of strategies was apparent. This suggests that other factors (such as available hospital resources, the competitiveness of the local hospital market, and the creativity of hospital executives) help determine the types of strategies that individual hospitals choose to adopt.

■ **Impact of hospitals' nurse staffing strategies.** *Impact on shortages.* The majority of hospitals (68 percent) reported that nurse staffing shortages had become less severe at their hospital in the prior two years. Hospital and community programs to train nurses, in conjunction with an economic downturn that has renewed interest in the profession, have increased the number of nurses in many markets. In addition, strategies such as salary increases and other recruitment and retention efforts have proved successful. Also, hospitals might have experienced less pressure to expand staff than they did two years earlier because the rate of growth in demand for hospital services has recently moderated.[9]

However, one-fourth of CTS hospital respondents reported no change in their nurse shortages over the past two years, with the majority of these respondents stating that the shortage remains severe. For example, respondents commented that the nurse shortage "is still one of the top issues for hospital CEOs" and "is not going away."

Impact on hospital costs. Many hospitals, including those without serious nurse shortages, reported sizable financial costs associated with their staffing strategies. High costs were most often attributed to the two most common short-term strategies: use of temporary nurses and increased nurse salaries. Investment in other recruiting and retention strategies, such as nurse education, also involved sizable costs, but a number of respondents expressed optimism about the future return on these investments. Namely, they hoped that such strategies will have a sustained long-term impact on staffing levels, which will diminish future reliance on temporary nurses and substantial salary increases. Efforts that improve nurse retention might also result in future cost savings through reduced nurse turnover.[10]

Impact on access and quality. Although hospi-

tals did not report any major impact on access to care as a result of staffing shortages, hospital operations have been affected. Seven hospitals reported limiting capacity or patient volume because of inadequate staffing, although three of these were located in Orange County, where state-mandated staffing ratios and severe shortages are present. Several hospitals also reported increased nurse workloads or overtime as a result of nurse shortages, which could affect care if nurses were overburdened.

Hospitals that relied heavily on temporary or inexperienced nurses were concerned about the impact of such strategies on patient care. For example, one hospital executive noted, "We have bodies, but we don't have seasoned bodies." Although hospitals are trying to address these quality concerns, this will likely be an ongoing issue as recently trained nurses replace experienced nurses who are retiring from the profession.

Future expectations. Although many hospitals are using strategies aimed at making longer-term staffing improvements, concern about a future shortage is widespread. Executives at nearly all of the hospitals represented in the CTS expect increasing pressure from nurse shortages in the future and fear that current efforts will be insufficient to meet future needs. This concern is augmented by hospital capacity expansions under way in many markets, which will require additional staff. Beyond continuing their current strategies and promoting new units and facilities to prospective nurses, for the most part, hospitals do not have specific plans to address future nurse shortages.

Discussion And Policy Implications

Hospitals' current strategies to respond to nurse shortages have a great deal of potential but also substantial drawbacks. Many of the hospitals we studied in CTS communities have made progress in dealing with the considerable nurse shortages that were present two years before the Round Five site visits in 2005. However, hospitals' staffing strategies bring cost, access, and quality consequences for the U.S. health care system and could have even larger effects in the future.

In particular, in all likelihood substantial nurse shortages will re-emerge, given predictions from federal agencies as well as the expectations of local stakeholders in the CTS markets.[11] Given our research, it is likely that hospitals will need to turn again to expensive short-term strategies, such as large wage increases and use of temporary staff, to deal with immediate staffing needs. Although hospital payroll growth has moderated recently, future shortages could create yet another round of rapid increases in labor costs, which ultimately are passed on to payers and consumers.[12] Also, future nurse shortages could harm patients' access to and quality of care if insufficient numbers of experienced nurses are available or if nurses' workloads increase.

A major strategy for combating these problems is accelerating current efforts to expand the future supply of nurses. Hospitals in the CTS markets have demonstrated a commitment to this effort, investing heavily to strengthen training programs and expand partnerships with nursing schools. However, there are limits to hospital-led initiatives on this front, given that the majority of U.S. nursing education now occurs in publicly funded colleges and universities. In addition, hospitals could be unintentionally aggravating future shortages as they raise clinical salaries, thus making nurse faculty pay less competitive.

There is an important role for public financial support to expand the nursing education system and especially to address the shortage of nurse faculty. Today numerous state and federal programs provide financial assistance to current and prospective nurse faculty. One example is the federal Workforce Improvement Act, which provides grant support to collaborative efforts involving hospital, business, and community stakeholders that, for example, support graduate training for future nurse faculty and increases to nurse faculty salaries. These and other strategies to increase nurse faculty positions and expand training opportunities are worthy of further exploration as key avenues to address nurse shortages.

Second, our research suggests that policy-

makers can guide the ways hospitals respond to the nurse shortage. For example, the Magnet Recognition Program has engaged hospitals with nurse staffing strategies linked with quality improvement. There may be potential for other external efforts that recognize high-performing hospitals—for example, by using performance on the nurse-sensitive quality measures as formalized by the National Quality Forum.[13] Hospitals have thus far been responsive to initiatives that aim to shape recruitment and retention strategies with an eye toward workplace and quality improvement, and this might be a fruitful strategy for policymakers to pursue to promote long-term solutions to the nurse shortage.

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