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INSIDE

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Want to improve your facility's business? Try making your staff happier

Study validates relationship between staff and patient satisfaction

Many have experienced how a grumpy waitress can ruin a meal or how a surly retail clerk can make you want to take your business elsewhere. But in the health care industry, few seemed to recognize the relationship between happy staff and satisfied patients. That is one of the reasons why the South Bend, IN-based benchmarking company, Press, Ganey Associates, recently conducted a study looking at that topic.

According to **Dennis Kaldenberg**, PhD, director of research and development for the firm, it's nice to have empirical evidence to support what Press, Ganey tells its clients. "We wanted to confirm that the relationship between employee and patient satisfaction had some empirical truth," he says.

Profits stem from positive relationships

Kaldenberg took on his study after reading an article in the March 1, 1994, issue of the *Harvard Business Review* by James Heskett. In "Putting the Service-Profit Chain to Work," Heskett wrote that profits stem directly from the positive relationships between organizational structure, employee satisfaction, and customer satisfaction. In his own study, Kaldenberg looked at employee satisfaction scores compared to patient satisfaction scores. The results were a nearly linear graph in which the health care organizations that scored low in one area scored low in the other.

The premise that happy staff make happy customers has been proved true in other industries, Kaldenberg adds. It has been the subject of many books and articles **(see box on further reading, p. 62)**. However, in health care, there is a lingering debate about whether patients are customers. "There has been some reservation in our industry to accept without proof what others have learned," he says.

There are specific incidents that show just how powerful employee satisfaction can be. For instance, Baptist Hospital in Pensacola, FL, was facing a highly competitive market in 1996, but patient satisfaction scores were in the 17th percentile. Morale among employees was low and sinking.

FURTHER READING

- **Freiberg K**. *Nuts! Southwest Airlines Crazy Recipe for Business & Personal Success.* Bard Press; 1996. $16.
- **Weiserma F**. *Customer Service: Extraordinary Results at Southwest Airlines, Charles Schwab, Lands' End, American Express, Staples, and USAA*. Harper Collins; 1998. $24.
- **Dow R**. *Turned On: Eight Vital Insights to Energize Your People, Customers & Profits*. Harper Business; 1997. $12.50.

As part of an effort to improve customer satisfaction, the administration at the hospital held employee discussion sessions that provided management with as many opportunities to improve employee contentment as patient satisfaction. The hospital instituted changes that included improved communication between management and staff; rewarding and recognizing jobs well done; and providing leadership development.

The results were astounding. Within two years, staff morale rose, so did patient satisfaction scores. By the first quarter of 1997, they had increased to the 98th percentile.

What to ask and when to ask it

While there are ways you can ascertain whether your staff is happy without doing a survey — for instance, your turnover level is low, you might assume that employees are satisfied — Kaldenberg says it is best to take a formal measurement of employee views.

"If you just ask someone if they are happy during an annual evaluation, you don't have any source of performance improvement," he explains. "They may be happy with their salary, but unhappy with their training, or the amount of freedom they have to make decisions. Unless you know that, a yes or no question like, 'Are you happy' is insufficient. You have to have a broad base of indicators."

Although Press, Ganey sells employee satisfaction surveys for about $3,800 for the report — including benchmarking results against other organizations nationally — there are cheaper alternatives. Business Research Lab of Hauppauge, NY, offers an off-the-shelf computer program for $400. It includes a variety of proven topics. The company will also do custom surveys that either you can administer, or they can, says **Donald Payne**, PhD, director of research.

Kaldenberg says it is also possible for you to do a survey yourself, if employees feel safe in being honest about their responses and if those answers will remain anonymous.

"External surveys get higher response rates and more honest answers," he says. "If you do it inhouse, you have a fear among staff that you are trying to identify trouble makers.

"Also, internal surveys are not as statistically sound," Kaldenberg continues, "and it's easier to write a questionnaire than to write a good one," he says. In other words, anyone can write a list of questions, but making them relevant to your organization is a much more difficult prospect.

Danny Frankel, PhD, vice president of Martin / Frankel Associates in Winston-Salem, NC, says there are some standardized tools psychologists have that can help you come up with the right questions. **(For a list of topics used by Press, Ganey, see box, p. 64.)**

Knowing what to ask is as important as asking it. "If you ask the right question, you get the right answer," he says. "You want to ask questions that will determine whether your staff is motivated, whether they are doing their jobs at the level you want, and what their idea of a sound organization is. You want to include questions about opportunities for personal growth, about how they feel about the work environment, if they think you value their contribution, and if they understand their role in carrying out the mission of the company."

You can avoid the fear issues by having some

COMING IN FUTURE MONTHS

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- ■ Are you meeting your outpatients' needs?

What makes employees satisfied and happy?

Surprisingly, it isn't money

When **Dennis Kaldenberg**, PhD, director of research and development at Press, Ganey Associates in South Bend, IN, looked at the relationship between staff happiness and employee satisfaction in health care organizations **(see related story, p. 61)**, part of the exercise included looking at just what mattered most to employee satisfaction. The answers were surprising.

Measuring the feelings of nearly 4,000 employees, he came up with a list that ranks 37 items as they related to employee satisfaction. Money doesn't even make the top 20. What is more important is making sure staff feel they can succeed at their job, that they are in control of processes for which they are held accountable, and that they enjoy the people with whom they interact.

Danny Frankel, PhD, vice president of Martin / Frankel Associates in Winston-Salem, NC, agrees that money isn't always an issue. "If people perceive they are underpaid in the market, they will be unhappy. But, for most people, what is more important is that they feel they are treated fairly. Recognition and reward is usually more important."

Here is the complete list, in order of importance, of what Kaldenberg's study found was most important to employees:

1. Pride in work and workplace.
2. Communication by administration.
3. Respect shown by manager/supervisor.
4. Manager response style to problems.
5. New ideas accepted by manager/supervisor.
6. Encouraged to think/act independently.
7. Adequacy of supervisor support.
8. Realistic organizational goals.
9. Ability to disagree with manager/supervisor.
10. Accuracy/fairness of evaluations.
11. Other employees' attitudes about working here.
12. Creative freedom on the job.
13. Authority to handle responsibility.
14. Acknowledgment of a job well done.
15. Understandable discipline policies.
16. Clarity of organizational goals.
17. Clarity of work policies.
18. Overall level of teamwork
19. Opportunities for advancement.
20. Manager/supervisor availability.
21. How well grievance procedures work.
22. Receiving information from other departments.
23. Resources to do the job effectively.
24. Adequacy of training.
25. Programs to aid with personal problems.
26. Other departments understand job.
27. Likelihood of receiving merit raises.
28. Satisfaction with salary.
29. Likelihood to attend company events.
30. Space/equipment safe from hazard
31. Cleanliness of work environment.
32. Knowledge of grievance procedures.
33. Satisfaction with sick/personal time.
34. Absence of work-related stress.
35. Adequacy of retirement plan.
36. Satisfaction with vacation time.
37. Adequacy of medical insurance. ■

external source, such as your outside accountant, legal counsel, or a consultant accept the results and compile the reports, Frankel says. "But you have to create a venue where staff know that their feedback is confidential, and where there is no risk of adverse consequences for answering the questions."

Payne says that while some organizations may have staff who are afraid to answer without a guarantee of anonymity, there is never any guarantee that an outside company will keep identities secret, either.

"This has to be an act of faith either way," he says. "I've seen it done both ways, and it rarely makes a difference."

Generally speaking, the larger the organization, the harder it is to do a survey internally, Payne adds — if only because you might not have the clerical staff to do the data entry in a timely manner.

If you know from the start that your staff won't answer questions honestly if a survey is done

Sample Question Topics for Employee Satisfaction Surveys

- **Respect shown by co-workers.**
- **Creative freedom you have in your job.**
- **Clarity of work policies at this hospital.**
- **Encouragement you get to think and act independently.**
- **Clarity of this hospital's organizational goals.**
- **Opportunities for advancement.**
- **How you would rate this organization as an employer compared to other places you've worked.**
- **Your understanding of your role in your company.**
- **Communication and planning.**
- **Corporate culture.**
- **Adequacy of training.**
- **Relationship with superiors.**
- **Your happiness with pay and benefits.**

Sources: Press, Ganey Associates, South Bend, IN; Business Research Lab, Hauppauge, NY.

internally, Frankel says, that is an immediate sign of a problem that needs to be addressed. "You need to get someone from outside who can measure satisfaction — or the lack of it — so that you can take action."

Kaldenberg says measuring employee satisfaction annually is best. "If you find areas for improvement, you want time to change processes and implement programs. You want time to see the results of those changes before you do the next survey."

Which brings up another caveat of looking at employee satisfaction: if you have no plan to act on the data, it's better not to ask again. Says Kaldenberg: "There is a danger in measuring satisfaction, doing nothing, and then measuring it again."

Frankel agrees. "Businesses often initiate change processes that go nowhere," he says. "You can continue to ask questions in these cases, and even get feedback from staff. But if you continue to do nothing, that has a demoralizing impact on staff."

"At the very least, you have to feed back the results to staff," says Payne. "There is no human resources policy that can address all idiosyncratic complaints that arise. But you can look at themes that come up and do something about common problems. And if you can't do something about them, then you should be prepared to explain why."

Teams should explore issues raised

Once you have the results, pick the top items for improvement, form teams, and really delve into the issues surrounding these items, says Kaldenberg. For instance, if you find that employees feel there is a lack of communication between management and staff, you need to ask them to be more specific. What kinds of problems exist? What could solve the problem? Would weekly staff meetings or some sort of e-mailed newsletter do the job?

Any change you do initiate has to be from the top down, Frankel says. "It has to be clear that the upper management will take responsibility for this information." When you do choose areas to work on, he adds, don't bite off too much. "If you take on too many issues, you won't succeed. Choose one or two that will drive the next year or two. When one is done, pick another issue."

Payne says the link between employee and customer satisfaction is pretty clear. "If you have a real concern with the health of your business, and your business relies on its employees, you have to be concerned about whether they are happy. But remember, too, that employee satisfaction isn't the be-all and end-all. Without the proper tools, training, and supervision, you have nothing but happy employees. This is only one element in effective performance by your staff." ■

SOURCES

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- **Dennis Kaldenberg**, PhD, director of research and development, Press, Ganey Associates, 404 Columbia Place, South Bend, IN 46601. Telephone: (800) 232-8032.
- **Peggy Mika**, community relations manager, Baptist Hospital, 1000 W. Moreno Street, Pensacola, FL. 32522. Telephone: (850) 434-4011.
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Community project is low on costs, high on results

Child patients give thumbs up to winning program

Editor's note: This is part of a continuing series looking at the hospitals that won American Hospital Association's NOVA awards for promoting community health.

Yakima Valley Memorial Hospital, a 225-bed hospital in Yakima, WA, had long served pediatric special needs patients. First located in a trailer behind the hospital, then in a converted triplex home, the hospital ran the Center for Child Health Services to provide help to children who had disabilities such as cleft palates or other genetic problems. But as the demand for services burgeoned, CEO **Rick Linneweah**, MBA, knew that another move would have to be made.

Linneweah brought together about 25 different agencies to see if a different approach could serve the increasing need. Fourteen signed on to create Children's Village, which opened in 1997 to bring together under one roof area services and agencies for these special needs children and their families. That program was recently honored by the American Hospital Association as a NOVA award winner for championing community health.

Designed to look like an Old West town, Children's Village allows parents and other caregivers to schedule multiple appointments for treatment and evaluations at one time and in one place. It has served more than 2,100 children since it opened.

A comprehensive patient satisfaction and outcomes-related survey is now being undertaken in conjunction with the University of Utah. But Linneweah says preliminary results indicate that the patients — or in this case, their parents — are extremely satisfied with the services they get, and their expectations are often exceeded by the Children's Village program.

"By the early 1990s, we realized that there was a real networking between agencies and providers of services for children with special needs," he says.

The groups included the Department of Social and Health Services Division of Developmental Disabilities, several area hospitals, local clinics, and the area school districts. They met regularly to discuss improving care and meeting the needs of the families who used it.

"But we realized that families often had to go to a number of places for services," Linneweah says. "So, we had these two forces come together: one about the desires and needs of the people we served, and one of the individuals and organizations who provided care already working well together."

Of the 25 organizations that originally met, 14 signed on to the program, and three — Yakima Valley Memorial Hospital, the Yakima Valley Farm Workers Clinic, and the youth services organization EPIC — signed on as lead agencies. These two other organizations, like the hospital, were looking for new facilities for their children's services.

"The other 11 wanted in, but didn't need a full-time residence," Linneweah says. The group decided the other 11 would be itinerant residents in a kind of health and social services "mall."

The group met monthly with the help of two hospital vice presidents who had a background in facilitating group projects. Linneweah says those monthly meetings were a test to the continued interest in and appropriateness of the project.

"The concept was tested as we went along," he says. "We asked ourselves regularly if what we were doing was right. And after three years, the interest and the desire and the passion was still as strong."

Focus on improving services

While everyone realized that for the Village to succeed it needed to be financially stable in the long term, Linneweah says that the bottom line wasn't the focus.

"Many organizations that had relationships with these people were charging for services or receiving grant money," he explains. "They weren't looking at this as a new revenue stream. What we wanted was to improve service to families and children."

The goals were therefore simple, and equally simple to measure: to bring services under one roof. That has been accomplished. That parents are happy with the service is a bonus.

And there has been another benefit of the collaboration, says Linneweah. The organizations that have always worked together in some way are finding their close quarters promote a new synergy. Three of the organizations have already banded to provide a new service in assessing children with behavioral difficulties who are referred by their schools. Linneweah believes other such opportunities and ideas will also arise

SOURCE

- **Rick Linneweah**, MBA, CEO, Yakima Valley Memorial Hospital, 2811 Taeton Drive, Yakima, WA 98902. Telephone: (509) 575-8001.

from the Children's Village.

The wider Yakima community came together to raise the building costs of $4.6 million in a record 18 months. "It was a real celebration of the community here, of the support towards an element of the population that needed it, and also of working together."

The building houses space for medical evaluations and clinics, drop-in childcare for siblings of patients, mental health services, family support services, resource coordination, and speech, occupational, and physical therapy. The Old West style of the building was designed to make kids feel comfortable, says Linneweah.

Three tenants share overhead

The overheads for the new facility — utilities, information systems, childcare services — are shared by the three main tenants and the other 11 organizations according to how much time they use the facility. Because the money for the facility was donated, no rents are charged; although repairs in each organization's space are covered by that organization. Each organization is also responsible for its own billing and staff costs. The organizations' executives meet six times a year to make administrative and policy decisions.

Linneweah says that in retrospect it is surprising how smooth the whole process went. "I've asked myself over and over, and I don't know if there is anything I would have done differently. I will say this: In any project, there has to be someone who provides the infrastructure, the continual push or pull. That came from our staff who had the facilitating capabilities, knew the players, and understood the environment."

While outcomes and patient satisfaction are still being measured, there is anecdotal and interim information that makes Linneweah believe the project is a success. "You get the sense that families think we provide better service. And the community is very aware of the Children's Village. You say those words here like people in other places say post office. This wasn't built under the premise that if you build it, they will come. People already were coming; and yet we know demand is on the rise."

In addition, he says that many of the community organizations that were unknown or weren't highly regarded in the community have seen their "street image" improve dramatically.

"Before, the Yakima Valley Farm Workers Clinic was 'that clinic for migrant workers,'" says Linneweah. "Now it is seen as a major force in the medical community making services available to those in the community who need it. No one knew what EPIC was when we started. Now, Head Start and other youth intervention organizations see it as an important social change agent."

Linneweah knows that these are hard times for many health care organizations, but argues that there is a reason for expending this kind of effort and money.

"If your covenant to your community is to improve the health of that community; if your belief system is that you can achieve more by working with others; if your desire is to create an image of reaching out in new directions and being innovative; and if you crave to satisfy individuals and make the health care system more easily traveled, then an effort like this is a natural outcome," he says. ■

Physicians make more use of computer technology

Eighty-five percent of physicians who responded to a new survey are currently using the Internet — a jump of 42% in the last three months, and 875% from 1997. Doctors, traditionally considered to be slow adopters of new computer technology, cited ease of use as a major reason for signing on. More than 63% of the physicians surveyed said they use e-mail daily, and 33% have used e-mail to communicate with patients, according to Healtheon Corp.'s Internet Survey of Medicine.

The poll is part of an ongoing research project by the Santa Clara, CA, company, which has chronicled nearly 10,000 physicians' computer needs and expectations over the last three years. The results were presented in April at the Physicians on the Internet Conference in San Francisco. ■

Y2K reference resource available in time

With the year 2000 (Y2K) deadline fast approaching, hospitals, other health care providers, and the medical device industry are scrambling to complete a process that in many cases was started too late.

What may have once been a logistical issue is burgeoning into an overwhelming problem, compounded by the scarcity of time, rising costs, and a lack of programming resources and expertise.

The health care industry has found itself under increased pressure as the realization dawns that it is behind the curve in preparing for Y2K.

According to a recent Modern Healthcare / PricewaterhouseCoopers survey, the biggest worry among 69% of health care providers is that patients will be "affected due to faulty monitoring gear," followed by concern over "inaccurate lab tests and pharmacy orders" (36%), problems with patient records (34%), and worries about billing and paychecks.

As the Y2K issue moves far beyond a mere "technological" issue, American Health Consultants has published the *Hospital Manager's Y2K Crisis Manual*, a compilation of resources for non-technical hospital managers.

This 150-page reference book includes information in non-technical language on the problems your facility faces, the potential fixes, and the possible consequences, including:

— Will your computers and software work in 2000?

— What does Y2K mean for patient care?

— What will happen to your medical devices?

— How can you make sure your vendors are Y2K compliant?

— Are you at legal risk due to Y2K?

— Are you prepared if Y2K delays HCFA payments?

Jan. 1, 2000, is not a moving target. Either your computer systems, medical devices, and suppliers can handle the date change and maintain business as usual, or they can't — in which case your entire organization may face serious problems.

The *Hospital Manager's Y2K Crisis Manual* is available for $149 from American Health Consultants in Atlanta. Call customer service at (800) 688-2421, or access *www.ahcpub.com*. ■

There are still a few unready hospitals

AHA survey reveals potentially alarming situation

Just under 1% of hospitals express concern about not being completely year 2000 (Y2K) compliant by Dec. 31 in the American Hospital Association's (AHA) most recent survey.

Fred Brown, AHA chairman, sees those few as a "real concern" and a "signal for us to focus our outreach efforts . . . on those few at-risk hospitals that think they could potentially have problems."

Another factor the survey revealed is that more than 60% of hospitals are having difficulty getting information from suppliers, and that is a barrier to compliance.

The AHA is working with the Food and Drug Administration to ensure that hospitals obtain the help they need from vendors, according to an AHA March 31 press release.

The survey was sent to 2,000 AHA members in February, and nearly 600 responded as follows:

• **Medical devices, such as defibrillators and cardiac monitors:**

— 90.4% expect to be Y2K-compliant or expect no problems;

— 5.7% are currently compliant;

— .5% expect non-compliance, with possible adverse effects.

• **Information systems**

— 84.7% expect to be Y2K-compliant or expect no problems;

— 12.9% are currently compliant;

— .5% expect non-compliance, with possible adverse effects.

• **Physical plant, infrastructure**

— 71.7% expect to be Y2K-compliant or expect no problems;

— 23.8% are currently compliant;

— .4% expect non-compliance, with possible adverse effects. ■

Senate Y2K panel finds health care lagging

The health care industry lags significantly in its Y2K preparations compared to other key economic sectors, with rural and inner-city hospitals and physician offices among the most vulnerable areas, a U.S. Senate committee has concluded.[1]

Looking at all sectors of the economy, the Senate committee judged that the United States "will not experience any nationwide social or economic collapse as the result of Y2K computer problems, but some disruptions will occur, and that in some cases Y2K disruptions may be significant. The international situation may be even more tumultuous."

The report says the health care industry lags behind other industries in dealing with the Y2K problem in managerial attention, technical resources available, financial resources committed, and remediation monitoring. Of prime concern are embedded microprocessors in biomedical devices. The devices are used in a wide variety of diagnostic test equipment (e.g., blood chemistry analyzers, MRI, X-ray) and inpatient and outpatient therapies (e.g., radiation).

"These devices are the Trojan horses in the health care industry's compliance," the report states. "Users are often unaware or unknowledgeable about the impact of the microprocessors inside these sophisticated machines. For example, surgical suite machines such as a $40,000 blood gas analyzer could close down operating rooms if they cannot function on Jan. 1, 2000."

The health care industry currently relies on manufacturers' Y2K compliance data reports to determine whether the device will function appropriately when the date changes. In many cases, manufacturers have been unable or unwilling to comment on their product's ability to function after the millennium change, the report states. As a result of the committee hearings, device manufacturers began providing compliance data to the Food and Drug Administration for publication on its Internet Web site at http://www.fda.gov/.

"Perhaps the most disturbing Y2K revelation to the Committee was the disclosure of the domino effect of Y2K failure," the Senate report states. "It can occur in both the use of biomedical devices and in Medicare payments. If one biomedical device malfunctions, it can potentially shut down an operating room. Or even worse, one device can pass erroneous data onto other devices creating adverse patient conditions. In other words, Y2K mistakes can reverberate throughout the health care system."

Other key excepts from the report are summarized as follows:

Rural and inner-city hospitals: Rural and inner-city hospitals have unique Y2K problems. First, because these types of hospitals tend to have limited financing, the expensive discovery, renovation, and testing process is beyond their means. Second, these institutions do not have access to the highly skilled personnel needed to achieve Y2K compliance. Third, these hospitals are more likely to have older medical equipment, which may be disproportionately subject to Y2K problems. On the plus side, some low-tech equipment may not have any Y2K exposure. On the other hand, older versions of bill payment software are more likely to be noncompliant.

Large hospitals: Large hospitals are dedicating considerable resources towards correcting the Y2K problem. They have all the usual Y2K problems of health care plus building management concerns. They have to provide water and power, heating, ventilating and air conditioning, plus maintain elevators and security systems. Large hospitals also must address Y2K problems in biomedical devices and patient data systems. All of the above must function in harmony for patients to be protected adequately. Hospital management is playing a catch-up game.

Doctors' offices: Because the nation's nearly 800,000 doctors work out of thousands of separate offices, detailed data on the extent of the Y2K problem in this area are unavailable. Medical offices are expected to have all the Y2K problems similar to hospitals on a smaller scale but without comparable access to technical and financial resources. Because diagnostic testing depends upon biomedical devices, potential problems may exist. Patient data systems are not widely used in doctors' offices today, but electronic health claims billing systems are nearly universal for Medicare. If doctors have to return to paper billing because of Y2K failures, insurance companies and Medicare would be hard-pressed to accommodate the resulting volume of health claims.

Reference

1. United States Senate Special Committee on the Year 2000 Technology Problem. "Investigating the Impact of the Year 2000 Problem." March 2, 1999. Web site: http://www.senate.gov/~y2k/ ■

Flu vaccine programs get a shot in the arm

New data suggest immunization cuts absenteeism

Doctors and nurses who receive influenza vaccine every year may have fewer days of work absence and febrile respiratory illness during flu season, according to a new study that supports employee health policies of annual influenza vaccination for health care workers (HCWs).

The prospective trial found that not only was influenza vaccine effective in preventing infection in HCWs; it also decreased cumulative days of reported febrile illness by 12 days per 100 subjects and reduced days absent by 10 days per 100.[1]

Study data also show that unvaccinated HCWs have a 14% risk of developing influenza type A or B infection, and that infection increases the risk of febrile respiratory illness or work absence fourfold.

11 fewer days per 100 vaccinees

Influenza infection among study subjects was associated with an additional 1.5 days of febrile respiratory illness and 0.5 days of work absence during an influenza season. The researchers maintain that their data provide a point estimate of "an absolute vaccine effect of 11 work absence days that were averted per 100 vaccinees and confirm the relative effect of 88% reduction in infection."

Study participants were 264 healthy physicians, nurses, and respiratory therapists from two large teaching hospitals in Baltimore. They were studied over three consecutive influenza seasons between 1992 and 1995. Mean age was 28.4 years; 57% were women. Vaccines and placebo were administered intramuscularly in October and November 1992, 1993, and 1994. Controls were administered meningococcal vaccine, pneumococcal vaccine, or placebo.

Each week during flu seasons, a study nurse called each participant to inquire about illnesses during the previous week, and recorded specific symptoms of respiratory illness and work absences due to illness. Blood specimens were obtained to check for influenza infection.

Infection rates for flu vaccine recipients and among controls were not altered by their vaccine experience in the previous year. Controls who received vaccine the previous year were infected at the same rate as controls not vaccinated the year before. The researchers found no evidence of "vaccine carryover," further supporting their recommendation for annual HCW vaccination.

The study apparently is the first assessment of the effect of influenza vaccine on health care professionals in a randomized, double-blind, controlled trial over three successive flu seasons. While a previous study of healthy adults showed vaccination resulted in a 0.5-day absenteeism reduction during a severe influenza attack season,[2] other studies specific to HCWs' absenteeism and infection rates have produced mixed results, the Baltimore researchers point out.

Most employees go unvaccinated

Convincing HCWs to comply with annual influenza vaccination programs is an ongoing struggle for most hospital occupational health professionals. U.S. Centers for Disease Control and Prevention guidelines list influenza as a disease for which immunization is strongly urged and call for health care facilities to offer vaccines before influenza season to all workers who have contact with high-risk patients.[3] Nevertheless, an unpublished 1993 CDC survey found that only 17% of hospitals contacted were vaccinating 50% or more of targeted employees.

"This population has shown it is not willing to get vaccinated at very high rates," says **James A. Wilde**, MD, lead researcher in the Baltimore study, former fellow in pediatric emergency medicine for the first two years of the study at Johns Hopkins University, and former faculty member at Case Western Reserve University, Cleveland, in the emergency medicine and infectious disease divisions during the study's third year.

One reason for vaccine avoidance is the low influenza attack rate, Wilde says.

"The problem is that even in a severe influenza season, the attack rate is about 20% [of unvaccinated people]. In a mild season, maybe only 2% to 5% get flu," he says. "That's the argument that some people give: The risk is not that high, so why should I get a shot every year for an infection that I may get only once in five or 10 years?"

HCWs also worry about vaccine side effects, especially getting influenza itself, "which is not possible," he points out, and about Guillain-Barre

Innovative approaches raise flu vaccination rates

Multifaceted programs include incentives

Food, prizes, and gift certificates are among the incentives that have increased influenza immunization rates among health care workers at two Midwest hospital systems.

Mobile vaccination carts have been recommended as a compliance-boosting strategy, and that was one means used at Rapid City (SD) Regional Hospital System of Care, where flu vaccination rates more than doubled from 35% in 1993 to 72% in 1997. Occupational health and infection control practitioners attempted to improve compliance rates after discovering that nosocomial influenza rates fell as the number of immunized employees rose, with apparent cost savings.[1]

Six cases of nosocomial influenza were found during the 1993 flu season, when 700 of 1,989 employees (35%) were vaccinated. Added patient costs for hospitalization and care were about $24,300.

Essentials of the 1994 campaign to raise staff flu vaccination compliance were managerial support, educational articles, a walk-in clinic during immunization season, a mobile cart taken to wards and clinic areas, and immunizations given at monthly staff meetings. The chance to win a $50 gift certificate was an additional incentive. Those immunized also received candy.

Participation rose to 71% (1,463 of 2,073) of employees in 1994. Only one nosocomial influenza infection was detected that year, with an estimated additional cost of $150. Immunization rates have remained high, peaking at 1,664 of 2,300 employees (72%) in 1997.

At the University of Kentucky (UK) Hospital in Lexington, between 34% and 55% of eligible HCWs have received influenza vaccine during the past four years. To increase that number, an aggressive campaign was instituted.[2]

The vaccine manufacturer (Connaught Laboratories, Swiftwater, PA) supplied 100 posters, which were placed in the hospital's most well-traveled areas accompanied by a vaccination schedule. The posters depicted the personal and work-related impact of influenza. Educational materials were distributed through department heads.

The immunization campaign was launched at a two-day infection control fair held in the hospital as part of national Infection Control Week. Banners, decorations, movies, and games taught infection control principles, and the aroma of fresh popcorn attracted passersby. Vaccine was administered at the fair, and recipients were eligible to enter prize drawings and got coupons for free pizza at the cafeteria. The grand prize included two tickets to a UK basketball game and a stadium jacket.

The campaign continued throughout the week, and a makeup date was scheduled two weeks later. Also, a flu vaccine cart was available for nursing units.

Those efforts paid off with a 51% increase in vaccinees over the year before. Total cost of incentives was $3,568. Organizers estimate that the program will pay for itself if it prevents 17 days of sick leave. They also point to a study showing that immunized adults had 25% fewer upper-respiratory illnesses, 43% fewer lost work days, and 44% fewer physician visits than those not immunized.[3]

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syndrome, which resulted from the "swine flu" vaccine in 1976.

"That fear has persisted for the past 25 years, despite the fact that no vaccine since then has been associated with Guillain-Barre syndrome," he says. "There is a lot of misinformation, even among physicians."

HCWs often reject vaccination if they were vaccinated the year before and still became ill, Wilde adds, but he explains that many non-flu

viruses circulate during influenza season.

"People associate any febrile respiratory illness during influenza season with influenza, but it's not the same thing," he says. "Lots of other viruses can give you fever and respiratory symptoms, although the severity of illness from those viruses is not as high as influenza. Because [HCWs] have had that experience, they say they won't bother to get the flu vaccine because [they think] it doesn't work."

Patients' lives threatened

However, the main reason HCWs don't get vaccinated is that "it doesn't seem important to them," says Wilde, who now is with the department of emergency medicine at the Medical College of Georgia in Augusta. "They don't worry about it because they figure it's no big deal if they're sick for a few days."

This attitude ignores the crucial patient protection factor, he points out. Influenza may be nothing more than a three- or four-day "nuisance" for a healthy adult, "but if you take it with you to the hospital and infect a cancer or renal dialysis patient, those people can die from the infection."

Wilde suggests that education efforts directed at HCWs include the results of a 1997 study in long-term care hospitals. It showed that when more than 60% of staff were vaccinated, total patient mortality related to influenza was reduced significantly, while high patient vaccination rates were not associated with significant effects on mortality.[4]

Wilde's study revealed important findings related to potential influenza transmission from HCWs to patients.

First, study participants were likely to report to work even when experiencing a febrile respiratory illness, a practice that increases the potential for infecting patients. Wilde notes, however, that 75% of study subjects were resident physicians, and that possibly not all HCW groups would be as reluctant to miss time from work.

Second, even if each unvaccinated employee has only a 20% chance of getting flu in a given year, in a medical center with 1,000 employees, 200 employees could contract influenza. That number is significant.

"If those 200 people do get influenza and come to work, they're going to spread it to a vulnerable population," he notes. "We found that the people who showed evidence for having influenza based on serology had a much lower number of days of absenteeism than they did days with fever and illness. So these people were coming to work with fevers, and that means presumably they were spreading influenza to people they were working with and to their patients."

Data help promote aggressive campaigns

Cumulative days of reported febrile respiratory illness were 41 per 100 subjects in the control group and 29 per 100 subjects in the group receiving flu vaccine. Days of absence were reduced from 21 per 100 subjects in controls to 10 per 100 subjects in flu vaccinees. While that number represents only 1/10 of a day per employee, there potentially are 100 days less absence if 1,000 employees are vaccinated.

"Looking at it from the administrator's standpoint, 100 days of prevented absence in an influenza season is a pretty good chunk of days" and

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helps justify more aggressive influenza vaccination programs for employees, Wilde states.

Efforts to increase flu vaccination compliance in HCW populations have been "less than major," he adds. While many hospitals make vaccine available, merely sending employees e-mail memos to "come and get it" is inadequate, garnering "10% to 50% compliance at best."

More concerted efforts to increase compliance include taking influenza vaccine carts to employees on their wards, Wilde says, a suggestion also offered by officials of the CDC's national immunization program. Obtaining vaccine free of charge is an incentive for employees, as well. **(See related story, p. 70.)**

"Our study gives administrators more reason to do more aggressive marketing of the influenza vaccine to their employees," he says.

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Denver hospitals braced for worst during shootings

Blend of luck, professionalism make the difference

Hospitals that received most of the wounded in the Columbine High School shootings in Littleton, CO, initially thought they would run out of intensive care beds in trying to accommodate the expected number of wounded victims. Initial reports from the scene indicated dozens of victims in need of immediate transfer to area hospitals.

In fact, the number ultimately admitted to each of the intensive care units (ICUs) was far less.

"Fortunately, we received only four in our ICU. Three went straight to surgery. A fourth was admitted to the pediatric ICU," recalls **Vicki Owens**, RN, nursing operations manager of the emergency department and surgical ICU at Denver Health Medical Center. The hospital was one of three Denver-area facilities that received the most seriously wounded.

Minutes after the first news reports filtered in, hospital staff performed a quick bed availability assessment and began coordinating with all floors on patient triage and transfers to make ICU beds available, Owens says.

At Centura St. Anthony Central Hospital, 15 miles away from the school, officials anticipated going into disaster alert based on early casualty reports. "That's how bad we thought things would be," recalls **Cindy Elger**, RN, clinical nurse manager of the surgical ICU.

The 12-bed unit ultimately admitted two patients. A third was sent directly to a step-down floor. All three needed surgery to repair internal injuries.

And at Swedish Medical Center, the hospital closest to Columbine High, three of the four worst cases were admitted to the ICU following surgery. But at least a dozen more were treated in the emergency department and either released or admitted to general medical floors, says **Ann Randall**, RN, director of patient care for the critical care unit.

Officials at the three hospitals credited a combination of luck, professionalism, and strong community spirit for results that day. Fortunately, staffing wasn't a problem. Nurses and other ICU personnel arrived for work early once they heard the news reports; and at Swedish and Denver Health, there were extra nurses on hand due to inservice programs originally scheduled that day.

Emergency department physician Chris Colwell, MD, was among the first clinicians on the scene with paramedics and triaged most of the patients to area hospitals. "He did a great job to make sure no one hospital got overloaded," Elger says. ■