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HOSPITAL CASE MANAGEMENT™

the monthly update on hospital-based care planning and critical paths

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Clinical Pathways: A special report

Clinical pathways set to experience 'technological rebirth'

Some hospitals at the beginning stage of automation

The age of computers has changed health care in many ways, and acute-care case management is no exception. Clinical pathways — also known as case management plans, care maps, action plans, or any number of other titles — are beginning to undergo a technological rebirth, in the form of automation. It makes sense: The hospital is crawling with computers these days, for Outcome and Assessment Information Set (OASIS) data collection and medical charting. Why shouldn't case management and pathway care get in on the deal?

At present, larger health care institutions, such as New York University (NYU) Medical Center in New York City, are really the only ones to have begun using automated systems. Smaller hospitals might not be ready for the technology, according to experts. In fact, some larger hospitals, too, are only equipped for the early stages. "We've started the process," says **Leslie Shain**, RN, CCRN, MA, nurse case manager for congestive heart failure at NYU. "We're still trying to get it up on our hospital information system."

NYU began automating in its surgery department, and case managers report that it's going very well.

"It's called CareMinder, and it takes you through order sets," explains Shain. Based on the written pathways that the hospital had used for years, and

Critical Path Network

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set up with the help of nurse specialists working in information systems, the automated pathway takes physicians or case managers through patient care, step by step, using different screens on the computer. "It kind of flows along; you hit one thing, and it triggers you to the next thing. There is the option to go out [of the pathway's guidelines] if you have someone who deviates a little from the pathway," she explains. Health care professionals can order lab tests or antibiotics directly on the computer with one click of a mouse or penlight.

Shain hopes that automation will filter through to all departments in the hospital. "I think it's going to work better because you won't really have a choice. Hopefully, it will be triggered by the emergency room doctors . . . and it will come up as order sets that they have to choose from. So it almost forces them to put the patient on a pathway and enter all the appropriate orders," she says.

"Right now, [the pathway] is a piece of paper on the chart, and most people don't look at it. The treatment protocol is pretty straightforward, so for the most part, people are getting the treatment they should be getting." But automation will help because, Shain notes, nurses will have to chart against it, "whereas on a piece of paper, it's not a charting tool. It doesn't occur to them to check off or initial the outcomes that have been met."

Emory University Hospitals in Atlanta also has begun the automation of care pathways, notes **Rosalie Przykucki**, RN, MSN, coordinator of clinical performance improvement. One side benefit of the Emtek system, currently in place only on Emory's intensive care units (ICUs), is that it has some graphing capabilities. "Some of the physicians want to see trends, like 'What's his temperature been for the last 24 hours,' and it actually builds a graph for you," she adds.

"I wish ours were completely automated, but they're not," she says. Instead, Emory has been busy structuring its paper pathways to be the same at both Emory University Hospital and Crawford Long Hospital — the result of the merger of the two Atlanta facilities.

That's probably going to be a common obstacle to automation, Przykucki says, with all the mergers going on around the nation. "I think a big thing is software compatibility between institutions, or even within the institution." Of course,

Health Insurance Portability and Accountability Act (HIPAA) rules also will govern the technology as it develops further in that direction.

Working out the bugs

Currently, when a patient leaves the Emory ICU, all the pathway information is downloaded and printed onto a readable chart copy, which will then follow the patient. "It kind of truncates the system a little bit, because there are components we didn't purchase that might have made it available to some of the [other] units," Przykucki notes.

Other problems include the constant struggle of getting physician support for case management-developed pathways, according to both Przykucki and Shain.

One of the physicians who has reviewed Shain's automated heart failure pathway is concerned about it being a little too restrictive, "which it really isn't," she says. "What we're putting in is really basic stuff that relates to heart failure. There are those who may not agree with every single order that we like to enter."

Barbara Delmore, RN, a nurse case manager on the NYU surgery unit, says that using the automated system is great, unless there's no buy-in. "We find that it works very well when the attending surgeon is behind it and monitors its use to some degree . . . [but] if there is not buy-in or monitoring of the system by a 'champion,' then it's an uphill struggle."

Perhaps the automatic aspect of the new technology gives doctors even more reason than usual to call it "cookbook medicine": the automation or computerization of anything can make it seem less personal, less tangible, and more remote. In this case, physicians might feel removed from the individual patient.

In fact, the opposite is true; having pathways on the computer makes it much easier to change and modify them to fit individual patients' needs. Przykucki notes, in addition, that more physicians are buying into the pathway process through this technology. "I think as more and more physicians go through their medical training, they're going to find that this is a tool that really helps them, just as the Merck manual did in the '60s and '70s."

One other glitch, of course, is the threat of system errors or technical difficulties. Delmore says her unit uses both automated and paper pathways, and always keeps order sets available in case CareMinder undergoes any technical problems. "Even though a pathway is on CareMinder, there is always a paper version," she says. The paper versions still get filed in the patient's chart for staff reference.

Getting really technical

The real state of the art, according to case management experts, is when the automated pathways and order sets become electronically linked to outcomes. "Everybody would love that," Przykucki says, "because right now what we get are the 'pink sheets.' They're the outcomes reports, still pen and paper, probably the same information that's [in the computer]. I end up having to input all that data and then send them back a report. If I could get into Emtek and everything were all linked, it would be a two-second project, rather than a day and a half."

Unfortunately in this day and age, she continues, health systems must consider the costs of implementing new software programs. "You have to count every dollar and cent. Is it worth it? Is it going to be outdated tomorrow? Especially in the age of HIPAA requirements, you've got to have something that's not going to go away."

The next thing Przykucki says she would like to see is physician order entry, where the doctors can order lab tests and antibiotics with their personal digital assistants (PDAs). "These palm devices . . . they can carry [them] around from patient to patient, and basically have all the patient information right at hand," she says. Many physicians use them already for reference materials, taking notes, and access to e-mail.

At Cedars-Sinai Health System in Los Angeles, palm devices are used for remote access to lab results, imaging reports, surgical reports, consults, emergency room records, and some ICU data, according to **Ray Duncan**, MD, director of technology and architecture for Enterprise Information Systems. "We don't have any policies, pathways, or guidelines available via the palm at this point. That is all available on our intranet, but we haven't had any requests to format it and make it available on the palms. Since there are PCs everywhere throughout our patient care areas, people tend to use the PCs and a Web browser if they are here on campus, and that is the only time they have much need for access to

pathways and guidelines," he says. But Cedars-Sinai is building a physician order entry system right now, "for planned go-live at the end of this year. Eventually we hope to make this capability available via PDAs," he adds.

Przykucki says, "I think that [PDA technology] will work its way into case management, too. The nursing CMs will have to have something equivalent, because they're carrying as high a caseload as any of these physicians," she says. "But that's on my wish list, and Santa Claus hasn't delivered yet."

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CM BASICS

How to build a pathway program from scratch

Starting from the ground up requires flexibility

Even if your facility has never had a clinical pathway program, you can still initiate one in your case management department, or create new pathways for diseases and situations you encounter in your facility, says **Carol Freeborn**, RN, who was a nurse case manager at Mercy Hospital in Toledo, OH, before becoming manager of the call center for disease management at Matria Healthcare in Marietta, GA.

It's a matter of taking the right steps and anticipating changes, because that is the one guarantee: There will be changes. Here, Freeborn shares her experience and her advice:

1. Conduct the chart review and the initial research. Two things had to be considered when Mercy started its program: the number of patients and cost of care.

"When we first started developing pathways, we had to pick one DRG [diagnosis-related group] to start with. First, we looked for highest volume. You wouldn't want, in the beginning, to do a pathway on something that you only received a few patients for." The case managers also began an in-depth analysis of hospital data to find out how much these cases were costing. "If we had a large number of patients that were, for example, fractured hip cases, but they really weren't costing anything more in comparison to what a national average was, or what Medicare was covering us for, then we didn't worry about those."

Start with your out-of-balance DRGs, Freeborn explains. DRGs with high patient volume, where the hospital spends more than it is reimbursed for are the obvious priorities.

"For our particular hospital, they were congestive heart failure [CHF], chronic obstructive pulmonary disease, diabetic ketoacidosis, and pneumonia. I also was going to conferences, researching best practices, and finding out that those were the same ones everybody was working on, so that's where we decided to focus," she notes.

Once you've chosen an area to concentrate on, you begin the intensive research, both inside and outside the walls of your facility, to see what's out there. **Leslie Shain**, RN, CCRN, MA, nurse case manager at New York University Medical Center in New York City, says the majority of the preliminary research work is done by case managers. "For me, I went to the American Heart Association and the American College of Cardiology Practice Guidelines, [which] you can get right off the Web. You take their recommendations, and tailor them to what everyone feels is important." Shain also suggests contacting other hospitals for copies of their pathways. "People usually are pretty good about giving them [out]," she says, unless their facility has a corporate policy against it.

The internal chart review is the next essential step in this early stage of pathway development, because it allows you to discover what patterns of practice already are being used by the physicians in your hospital, and then compare those to the

best practice guidelines that are published. "Prior to our chart review," Freeborn explains, "there was no specific practice, and that's kind of what a clinical path does: It takes a best-case scenario and then tries to put that out there as a model."

She adds that Mercy's case managers spent a long time searching for patterns in treatment for the particular DRG they were studying. "It was pretty labor-intensive. We did a lot of charts." Most important, the chart review has to be an ongoing thing, Freeborn stresses. Even after the pathway is established, you "continue to do chart review. It tells you how successful your pathway is."

2. Form the interdisciplinary team. After the initial research, it's time to get others involved. Forming an interdisciplinary team requires the inclusion of everyone who might use the pathway — doctors, nutritionists, nursing staff, and physical therapists. "You even need somebody from the lab, so they can help with what tests will be ordered," Freeborn says.

Especially important are those with recent clinical experience, because "they know whether something is going to work, and they're going to tell you," she notes. Working together, the team can develop what it feels is the best practice scenario, using your research and its knowledge of the day-to-day routine, Freeborn says.

"Physicians are vitally important in the beginning, because you need to know what the orders are. The orders drive the costs." Besides the medical knowledge you need from them, physicians and others need to be educated about what you're trying to do with the pathway. If you don't have people knowledgeable about what you're putting out, you're just spinning your wheels," Freeborn says. "It's really important to get the right people on your team and to get buy-in from them in the beginning."

Getting the other health care workers to buy into your pathway is probably the most vital and most challenging part of the job, experts say. Many physicians will try to tell you that care pathways are just "cookbook medicine," and that you, as a supporter of the pathway, are trying to tell them how to do their jobs. **(See related article, p. 54.)** Position your pathway as a result of research, Freeborn suggests.

"[You can say], This is simply what we've found: If we order this particular test on day one, then it tends to come back on day two, rather than day three." For example, when Mercy was developing its pneumonia pathway, a clinical guideline was issued stating that administering antibiotic in the emergency room would reduce patients' length of stay (LOS). So Freeborn added that to the pathway — and found that it worked well. "Always keep in mind that this is a tool. It's an agent that effects change and should always be benefiting the staff and not burdening them," she adds.

Shain agrees. "It's really a guideline; it's not set in stone.

3. Put it on paper — several times. Don't be fooled into thinking that your first attempt at a pathway will be right on the mark. "You just take a stab at it and put it down on paper," Freeborn says, and you revise it many, many times. "No pathway for us was ever set in stone. We always called it a 'work in progress.'"

Freeborn adds that it is important to start small. "You know, if you make a goal too big, you can't achieve it, and no one's going to get anywhere." When her first CHF pathway was released, the goal for LOS was seven days. After the team had lowered LOS by a day or so, it revised the pathway to indicate it had a new goal. "You have to be right on top of your pathways all the time, revising them and looking at them," she adds.

As works in progress, pathways will be changed and supplemented through the years. "We'd put one out there," Freeborn says, "and later add patient education to it. Then we'd ask, 'What's a better way to document on it?' We would change it as we went along."

Change has to be something you build into it, she stresses, either through quarterly meetings or by taking nurse and physician suggestions along the way. "If you've got an old pathway out there and someone hasn't looked at it at least quarterly, you don't have a viable tool," she notes. In her current position as manager of the call center for disease management at Matria Healthcare, Freeborn knows the value of the pathway approach. Her practice setting is no longer acute care.

"We actually use pathways, in a different version, in disease management. They're a valuable tool in telephonic case management, too, to better educate patients " she explains.

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CM cooperation skills help doctors to 'buy in'

Convince them you're on the right path

When establishing a patient care path system, often the No. 1 obstacle is getting hospital physicians to accept the idea of a protocol or pathway. Physicians play a key role, however, in making the pathway successful, says **Maria Brillant**, RN, coordinator of case management at New York University medical center in Brooklyn.

"Communication is the biggest key to delivering effective care," she notes, and the process that leads to physician buy-in is good communication.

Instead of doing all the research themselves, case managers at Brillant's facility have a philosophy of cooperation with physicians. "What we really try to do is find out what their ideas are as well, and then incorporate them or come up with a compromise," she explains.

Sometimes, the physician member of the pathway development team is not the physician who handles the highest volume of a particular procedure. That was the case when Brillant developed a joint replacement pathway in orthopedics. "The physician who ended up doing it the most kind of resented the fact, although we had solicited his input," she says.

In that situation, Brillant had to be diplomatic. "Eventually I just said, 'Tell me how you want this written,' and I wrote it that way. It's a backdoor way of doing it. But that's why we're here — because there's nothing we can't do," she says. "We always believe that there's a solution to every problem; there's always an answer — sideways, backways, whatever way we can."

In her book, *The Case Manager's Survival Guide: Winning Strategies for Clinical Practice*, **Toni G. Cesta**, PhD, RN, FAAN, director of case management for Saint Vincents Hospital in New York City, suggests several valuable strategies for getting physicians on your side:[1]

• **Involve physicians in the process of developing case management plans (CMPs) from the beginning.** When assembling a team, Cesta says, it's important to keep continuous quality improvement techniques in mind, choose a leader and a facilitator, and have six to eight team members. "I always say the leader should be a physician, because you're really examining the practice patterns of physicians."

• **Approach influential physicians who are interested in improving the quality of care and reducing the related cost for participation.** You should pick a doctor who's going to go out and "walk the walk," and be a champion for the care path. Someone who's directly involved with the particular illness or procedure you're addressing is the ideal candidate, Cesta adds, because his or her credibility in the field lends validity to your work.

• **Share related published materials (e.g., evaluative research, description of case management systems, physicians' opinions from other similar institutions) with all physicians.** Brillant suggests calling upon drug reps and associations (like the American Heart Association) for literature that supports your pathway. Attend conferences, and review all the literature you can find, she says.

• **Emphasize that CMPs are recommendations for treatment rather than rigid guidelines or standing orders.** Make clear to all physicians that the CMP should be individualized for each patient on initiation and that changes are possible. "The misconception is that this is ready-made stuff," Brillant suggests. "Through the years, we have made [doctors] understand that we know they still have to vary sometimes, because no two patients are the same." The pathway is just a guideline, she stresses.

• **Communicate how CMPs improve compliance with the standards of regulatory agencies.** Many of the accrediting agencies and peer review organizations have the expectation that a health care organization will follow a standard of care; guidelines and care paths can help show that is being done, Cesta points out, because they are a sanctioned standard of care for the facility.

• **Emphasize that the plans may be used as marketing tools to attract more participation from managed care organizations.**

• **Stress opportunities for research and creativity in patient care delivery.** Cesta adds that especially when care paths are linked to outcomes

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CRITICAL PATH NETWORK™

Pediatric simple open heart surgery critical pathway

Increased standardization, team communication

Noel Thomas, RN, MSN
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In 1997, it was realized that DRG 108 ("other major cardiothoracic procedures"), which includes many of the surgical repairs for congenital heart disease, was one of the biggest money losers for Vanderbilt Children's Hospital, resulting in a loss of approximately $1 million per year.

At that time, a multidisciplinary team, including nurses, physicians from intensive care, cardiology, anesthesia and surgery, case managers, utilization manager / diagnoses-related group specialists, a respiratory therapist, and representatives from the quality office, was formed to find ways to standardize care, cut costs, and improve the quality of the care given to this cohort of patients.

Among the many efforts made by this team of care providers, a critical pathway was developed for the care of patients who undergo simple congenital heart surgery. This critical pathway was named "Simple Congenital Heart Defect Open Surgical Repair." **(See pathway, pp. 56-57.)**

Utilization of the pathway

A majority of the patients appropriate to this pathway have their preoperative evaluation in the Cardiac and Thoracic Surgery clinic one to two days prior to the operation.

A standardized order set for preoperative evaluation with 100% compliance in the clinic eliminates the need to attach the path to the patient's chart at that time. A subgroup from the operating room, including anesthesia, OR nurses, perfusionists, and case managers, developed a separate OR pathway.

The highlights of the OR pathway are included on the "Simple Congenital Heart Defect Open Surgical Repair" pathway for the purpose of education of the care team. The pediatric critical care nurse attaches the pathway to the patient's chart on the patient's arrival to the critical care unit where they are recovered postoperatively.

The nurse is required to document progress of the patient on the pathway every 24 hours on the patient flow sheet. Individualized goals, such as those related to comorbidities, can be entered in the individualized goal section on the pathway.

Maintaining pathway compliance

Standardized order sets for admission to the critical care unit after surgery also help with compliance to the pathway. A preoperative order set also has been developed for patients who are in-house preoperatively to maintain compliance to the pathway for these patients.

Our care team currently is developing an order set for transfer from critical care to the floor. Currently, our critical care patients are not on computerized order entry.

Our eventual goal is to have the patient admitted with the pathway assigned and to have the standardized orders, the hard copy of the pathway and the appropriate teaching material print out automatically.

Among the teaching materials included will be an illustrated patient / family-friendly version of

(Continued on page 58)

Vanderbilt Children's Hospital

Simple Congenital Heart Defect
Open Surgical Repair

DRG Number: 108
ELOS: _____
Procedure _____

Surgeon:_____ Cardiologist:_____ PCP:_____

	Pre-Op (CV Clinic)	Surgery (OR)	Surgery (ICU)	Phase I (Est'd PO 1)	Phase II (Est'd PO 2)	Phase III (Est'd PO 3)
Entrance Date/Time/ Initial	Date: _____ Time: _____ Initial: _____	Date: _____ Time: _____ Initial: _____	Date: _____ Time: _____ Initial: _____	Date: _____ Time: _____ Initial: _____	Date: _____ Time: _____ Initial: _____	Date: _____ Time: _____ Initial: _____
Goals	Education: Pre-op teaching completed System: Pre-op labs/tests completed	System: Surgical procedure performed	General physiologic: Stable/stabilizing Respiratory: Extubated (*early if poss. 2-6h*) Hemodynamic: Diuresis	Nutrition: Adequate nutritional support Activity: Progressively mobile/ambulates Hemodynamic: Diuresis System: D/C to 6N	Hemodynamic: Diuresis (continue if needed)	Education: D/C teaching completed System: D/C from hospital
Individualized Goals						
Treatments	Hibiclens scrub	Strict I & Os → Foley → D/C Art. Line → D/C CVC → D/C CTx2 to 20CM H2Osx → D/C CTx2 ETT → Extub (4° post-op) → FM → RA Replace CT output "cc for cc" with normal saline x 4hr → D/C NG/OG → until extub → PIV → Heplock VS q hr → VS q 4 hrs				Remove all external sutures

MC 5614 (2/1999) (front)

	Pre-Op (CV Clinic)	Surgery (OR)	Surgery (ICU)	Phase I (Est'd PO 1)	Phase II (Est'd PO 2)	Phase III (Est'd PO 3)

CHD Simple Open.xls
08/21/00

Activity	Ad lib	BR	BR	Up to chair	Ad lib → Mobilize/ambulate	At D/C tell: Moderate exertion Avoid risk of blows to the chest
Diet	Regular diet Clear liquids only 7 hr before surgery NPO 5 hr before surgery	NPO	Clear liquids 4 hrs after extubation Advance as tol	Advance to regular diet	Regular → Assure pt. eating minimum 130cc/kg/day	At discharge: regular (no salt added if on Lasix)
Labs/Tests	CBC w/plt T&C (4u) Basic Metabolic panel UA CXR, EKG } if none in last month Echo if requested per cardiology	Pre-pump ABG (pt.) Pump prime ABG On pump ABG, PCV Off pump ABG, PCV (± K+, iCa+)	ABG x2 (on arrival after extubation) PCV K+ < 3 mos (iCa+, CS) pCXR	Basic Metabolic panel PCV	CXR (PA) in department (after CT's removed)	
Meds/IV	Hold all meds 5 hours prior to surgery	Ancef or Vancomycin → D5-1/2 NS (BSA x 50) cc/hr	HL when taking po well Pepcid x 2 doses PRN Fentanyl	Change IV meds to po (except antibx) when taking po Change to po	D/C Ancef/ Vancomycin with CT removal	Consider iron if last PCV < 35
Consults	Anesthesia Cardiology Surgeon					Cardiology
Teaching/ Continuum of Care Plan	Surgery What pt. will look like after surgery Pre-op care (NPO, hibiclens) Hospital stay (PICU, 6N) Family hospital tour Child Life Therapy (age appropriate)	Progress during surgery from OR Post op: info on case from surgeon	Reinforce pre-op teaching Any change from pre-op plan	Incision care → S/sx of infection → Avoidance of infection → Medications → S/sx of CHF → CPR for parents → Activity →		Make follow-up appts w/CTS, PCP, Cardiology

SIGNATURE	INIT.	SIGNATURE	INIT.	SIGNATURE	INIT.	SIGNATURE	INIT.

MC 5614 (2/1999) (back)

CHD Simple Open.xls
08/21/00

Source: Vanderbilt Children's Hospital, Nashville, TN.

(Continued from page 55)

the path that is being developed by the case manager and the child life therapist who work with this patient population in conjunction with The Learning Center at Vanderbilt.

The goal of this version of the path is to reduce anxiety for the patient/family by keeping them informed of what to expect, to increase their involvement and control, and potentially to assist us in focusing on compliance to the pathway.

For a variety of reasons, an overall marked decrease in cost has not been realized with the initiation of the pathways to this point.

One reason for this is the increased utilization of high-technology and high-cost modalities, such as extracorporeal membrane oxygenation and inhaled nitric oxide, in the complex population. However, increased standardization through improvements in benchmarks such as length of stay, length of critical care stay, number of chest X-rays, number of arterial blood gases, and time to extubation, has been noted.

One additional positive impact of pathway development has been improved communication between care providers.

Multiple physician groups, including intensivists, cardiologists, and surgeons, manage these patients along with a number of ancillary services. The process of discussing necessity of treatments has given representatives from each of these groups the opportunity to share their knowledge and come to agreements on what care is needed or not needed for the majority of these patients.

Representatives frequently presented the applicable current research in making these decisions. However, developing pathways never takes away the necessity of assessment and individualizing the care based upon the patient's clinical condition.

Constant revision of the pathway and open minds to opportunities for improvement will hopefully result in continued improvement of quality and reduction of cost.

(Special thanks to Patricia Throop, RN, BSN, Greta Fowinkle, RN, MSN, and the Office of Case Management.) ■

New Web site focuses on needlestick prevention

Several opportunities for staff education

The National Alliance for the Primary Prevention of Sharps Injuries (NAPPSI) has launched a two-pronged information initiative aimed at reducing or preventing needlestick injuries in health care settings.

The Web site (www.NAPPSI.org) highlights information on needlestick prevention efforts, legislative and regulatory developments, and resources for companies and health care professionals. Members of NAPPSI's speakers bureau are available to make free presentations to clinician organizations on primary prevention of sharps injuries.

Ron Stoker, NAPPSI executive director, describes primary prevention as "a technology or practice that actually eliminates or reduces the need to introduce a sharp implement into the health care workplace," such as the use of lasers to replace lancets used to draw blood, and catheter securement devices that eliminate the use of suture needles.

The alliance's real goal is to reduce the number of sharps in the workplace, thereby reducing the risk of more victims of accidental injuries, he adds.

"The speakers bureau and Web site are designed to highlight the effectiveness of primary prevention, which is like a vaccination against accidental needlesticks. Eliminate the needle, and you eliminate the risk," Stoker says. "Secondary prevention of sharps injuries, while valuable, consists of a technology or practice that only modifies a sharp implement so it is less likely to cause injuries."

In addition to the Web site and speakers bureau, NAPPSI plans an e-mail newsletter, organized outreach to legislators and regulators, and support of its members' efforts to promote their own primary prevention technology and techniques.

Under the new Needlestick Safety and Prevention Act, hospitals and other health care facilities will now be required to use the best technologies available to protect health care professionals from bloodborne pathogens such as HIV, hepatitis B, and hepatitis C. The requirements also stipulate that employees participate in the selection of safe needle devices, and that a log be maintained which lists each needle injury at the facility. ■

Discharge Planning Advisor®

– the update for improving continuity of care

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- Staff cooperation
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Initiative cuts ED visits, hospital admissions

'Phone monitor' role gives continuity to program

When Sutter Health Central in Sacramento, CA, got involved in managed care and global capitation several years ago, it made sense to identify the patients likely to use the system a lot and do interventions to prevent them from getting to that point, says **Jan Van der Mei**, RN, continuum case management director.

That goal led to the development of the Sutter Chronic Care Program, an initiative that, among other benefits, reduced participating patients' visits to the emergency department (ED) by 43%, admissions to skilled nursing facilities (SNFs) by 36%, and acute care admissions by 32%, for the period between July 1, 1999, and June 30, 2000.

Preventing 'frequent flyers'

There were similarly dramatic reductions in outpatient visits, home health visits, and visits to both primary care physicians and specialists.

Although those results are for members with high utilization rates — two or more acute admissions, two or more ED visits, or five or more home health visits within a year — the program also focuses on patients who are not "frequent flyers," Van der Mei says. "We are trying to prevent that from even happening," she adds. "We may have 800 enrolled in the program, but only about 400 meet that [high utilization] criteria."

For all the patients, who are Medicare+Choice enrollees, the health system is financially responsible for physician visits, hospital admissions, SNF costs — "everything but pharmacy," she adds.

The chronic care program began in 1995, the brainchild of gerontologist **Cheryl Phillips**, MD, who was given a dual mission by Sutter Medical Group, an association of physicians that is aligned with Sutter Health Central. "We had about 3,000 Medicare HMO enrollees, and we realized there was a subgroup that was very frail and used a lot of services." The idea, she adds, was not only to focus on preventive care for frail elders, but also to address the common problem of trying to fit chronic care into an acute care model.

Volunteering her time, Phillips says, she began the effort with a half-day social worker and a half-day nurse practitioner, and wrote the risk screening tool for the program on her home word processor.

"We developed risk stratifications, not only to identify the risk levels of those with chronic diseases, but to hit the threshold for our definition of frailty." Taking a handful of patients and doing home visits, she explains, Phillips and her team developed a longitudinal, or ongoing, case management model to replace the traditional episodic, or reactive, care model.

Identifying frail elders

With some funding from three health maintenance organizations (HMOs), she was able to add a functional operations manager, Phillips says. "At that time, our managed care enrollment was growing, and we did broad-based screening of enrollees." By mailing out a questionnaire to new enrollees in Medicare+Choice, she adds, "very often we would find frail elders before the primary care physicians did."

In the program's initial stage, Phillips explains, her role was "very patient-specific. I would do initial assessments with the nurse practitioner, and screening reviews." Now that the chronic

care program has grown to nearly 1,000 patients, she says her role as medical director is to set policies and criteria for frailty, meet with the care team on a regular basis to go over difficult or challenging cases, and act as a liaison between the primary care physician and the team.

"We often find [cases of] multiple medications, untreated depression, and new dementia," Phillips explains. "I can communicate with the primary care physician [PCP]. It was never our goal to assume the role [of the PCP], but we serve as the coordination for them."

Providing links between agencies

The chronic care team links regularly with home health agencies and nursing homes so that it is aware when a member is using these services, she says. "We can serve a lot by providing links and assisting with placements, particularly if the patient is in the nursing home for a short time, like for rehabilitation after a stroke. We become that continuity link. If they go in the nursing home and go back home, we know about them across the continuum and coordinate the levels of care."

> *"Sometimes they expect you to work miracles you can't. [Physicians] say, 'The patient needs to be in a SNF today, but maybe the patient doesn't want to go today. We work with them over time. Patients have a choice, and sometimes they make bad choices."*

The health risk screening tool that Phillips developed, Van der Mei points out, defines four levels of risk. "They primarily followed '3s' and '4s,' she adds. Those at level 4 are at great risk, and those at level 3 are at risk of potentially needing hospitalization."

The chronic care program "started as a social work model," she says, assisting members who needed caregivers, food, or transportation. "We do a lot of those interventions, helping patients with chronic illnesses maintain a level of functioning." Now, however, with the addition of more nurses, "it's more of a multidisciplinary team," she adds.

A statistical analysis of the participants at the end of the initial grant period validated that the screening tool was a predictor of increased utilization, she says.

At that point, notes Van der Mei, the program "needed to be operationalized. We had the concept, but needed to find a way to fund it when the grants ended, and without a definite return on investment, it was difficult to fund."

Based on the early results, however, Sutter's physician group and hospital administration agreed to provide funding, she says, and Van der Mei was hired in August 1997 to develop and expand the program.

After studying different chronic care models, she developed for the program the role of monitoring specialist, or "Medicare risk specialist," Van der Mei explains. "For ongoing monitoring, you don't necessarily need a nurse or social worker, but you do need someone with a background in the field of gerontology."

This brought an additional member to the multidisciplinary team, one who is able to carry a larger caseload, she says. When the monitor identifies a problem, there is a nurse or social worker close at hand who can be consulted, Van der Mei adds. "The monitor can say to the nurse, 'You need to go out and do a home assessment.'"

At present, she says, the team is made up of four registered nurses, four social workers including one who is the team supervisor, three Medicare risk specialists, and support staff. Each RN case manager and social worker has a caseload of between 60 and 80 patients, while the phone monitors carry a caseload of 150.

Ongoing monitoring for at-risk patients

The ongoing monitoring provided by the Medicare risk specialist is not hands-on and not episodic, Van der Mei points out. "Our patients don't have to be homebound. They're just at-risk patients, patients who are very frail."

In a typical case, Phillips explains, the team identifies a high-risk patient, either through its screening tool or through referral from a physician.

The patient may be, for example, an 89-year-old woman who is falling a lot, not taking her medications, and living alone. The initial assessment is done by a nurse, a social worker, or both, depending on the patient's needs, she says. The team identifies the problem, develops interventions, and coordinates the care by, for example, bringing in a physical therapist and safety equipment and lining up community services.

Once these solutions are in place, the case is handled through telephone monitoring by the Medicare risk specialist who calls the patient

every two weeks, and eventually monthly. That monitor "keeps the link to make sure things are working. It's also a constant link for the patients, so when they have a problem they know who to call," Phillips adds.

"Sometimes the interventions are up to the family members," Van der Mei notes. "The monitor can call and check to see if the family has followed through on what it's been identified that they need to do."

The program differs from many other models in that it is over time, she adds. "Many times patients stay in the program until they die, or for a year, or they may move to assisted living or a SNF." If the patient does move to a SNF or similar environment, she says, "we back out at that time" because of the close care the person will receive in such a setting.

In most health care systems, Van der Mei says, "there's not really anybody that does this [function]. With our program, instead of calling physicians all the time, the client calls the chronic care program. We help coordinate that maze of confusion in a managed care system. The program, she adds, "is an extension of the PCP."

The chronic care team teaches patients to recognize symptoms earlier that indicate they should visit a physician, Van der Mei says. The team will make the appointment for them, if necessary. "We do medication management. If, for example, patients are taking eight to 10 drugs, we make sure the physician knows they're taking them all." If patients run out of money and can't fill their prescriptions, the team can help them apply for MediCal or other assistance programs.

Plenty of challenges

The program has not been without its challenges, Van der Mei notes, including the difficulty some physicians have had understanding its role. "Sometimes they expect you to work miracles you can't," she says. "[Physicians] say, 'The patient needs to be in a SNF today, but maybe the patient doesn't want to go today. We work with them over time. Patients have a choice, and sometimes they make bad choices."

Another problem is that the program is only for managed care patients, while physicians have patients with all kinds of payers in their practices, Van der Mei points out. "It's difficult for [physicians] to keep up with who they can refer to this program."

One of the earlier misunderstandings, she says, was that some people thought the program was the same as a home health agency. "We don't do wound changes, injections, intravenous antibiotics — anything that is skilled and short-term."

At times, however, the program has overlapped with a home health agency, Van der Mei says. "At first they saw us as a threat. We try to avoid getting involved until the home health [service] is closed, but sometimes there's a social issue, if a patient doesn't have a caregiver, lives alone, and is falling, for example. Maybe home health is taking care of the patient's wounds, but doesn't address the big picture."

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Referrals ensure continuum of care

Packets outline available support services

When it comes to referring acute care patients to disease-specific education programs, the referral process at Akron (OH) General Medical Center is simple. Patients admitted to the hospital with a chronic disease such as asthma, diabetes, or congestive heart failure are given a teaching packet that has a list of support services. A nurse goes over the information with all but the asthma patients who receive the teaching from the respiratory therapist.

In all cases, the educator strongly encourages them to attend an outpatient class, but does not make a formal referral, says **Billie M. Foley**, RN, MSEd, patient education coordinator at the medical center.

A start to education

Patients who are admitted to Jackson Memorial Hospital in Miami with a chronic disease also receive a standard educational package. However, the materials are considered a "starter" to education, explains **Peggy McLoughlin**, RN, JD, chronic disease manager at the health care facility.

For further education, the inpatient case manager enrolls the patient in a group class, such as diabetes self-management, and refers the patient to the disease state case manager.

Classes are available at primary care sites in the north and south ends of the county and at the hospital's main campus with two sites offering education in Spanish as well as English.

"Once a patient is referred to our disease management program, the disease state case manager does a risk screening of the patient and assigns the patient to either a low, medium, or high-risk category.

The criteria vary by disease, but the main categories are clinical, adherence, and psychosocial risk factors," says McLoughlin. The overall risk level of the patient governs the frequency of interactions with the case manager. High-risk patients receive intensive one-on-one education from the disease state case manager.

An example of the process is as follows:

1. **Patient admitted to hospital with a diagnosis of diabetes.**

2. **Patient placed on a clinical pathway.**

3. **Patient followed in-house by inpatient case manager.**

4. **Patient referred to the appropriate disease state case manager who follows the patient after discharge.**

5. **Patient screened for risk level at primary care site.**

6. **Patient's level of risk determines the frequency of interactions with the disease state case manager.**

"The goal of the disease state case manager is to work with the primary care provider to maximize medical therapy and provide the patient with the skills necessary for self-management of the disease," explains McLoughlin. As the patient develops the skills to manage the disease on his or her own, the risk level is reassessed.

When a person is admitted to Grant/Riverside Methodist Hospitals with a diagnosis of diabetes, the patient receives an automatic consult with a diabetes educator.

If a patient has asthma and has a new breathing treatment prescribed by the physician, a respiratory therapist comes to teach. Similarly, cardiac rehab provides an educator for heart patients.

In each case, the educator talks to the patient about the benefits and support of an educational outpatient program pertinent to management of their chronic disease. If the patient is interested, a referral is made, says **BJ Hansen**, BSN, patient education coordinator at the health care system in Columbus, OH.

Because many of the heart patients are from outside the Columbus area, a list of rehab programs throughout the state of Ohio is maintained. "We have a list of all the cardiac rehab programs in the state of Ohio we give to the patient, and we try to get them to a cardiac rehab program in their area if they are willing to go," says Hansen.

Within their own system, they have a heart disease management clinic and a Coumadin clinic for heart patients. For asthma management, there is an asthma clinic/pulmonary rehab program, and for diabetes patients, outpatient classes are available with a case managed program available for HMO members.

Specialists automatically visit patients with heart problems or a diabetes diagnosis when they are admitted to Provena Mercy Center in Aurora, IL. During the education session, cardiac rehab nurses teach the heart patient and explain the health care systems' cardiac rehab program. They set up a time for the patient to begin the program after discharge, explains **Rita Smith**, MSN, RN, education coordinator.

"For patients with diabetes, the dietitian sees the patient and refers them to the diabetes support group that meets once a month. Also, they are given my name and number so they may come in as an outpatient for further education sessions on managing their diabetes at home," says Smith.

To make sure asthma or diabetes patients coming to the emergency department at Jackson Memorial Hospital don't slip through the cracks, case managers intercept them. "They initiate education and give the patient a 'starter' education packet. They will also determine where the patient receives their primary care, and make an appointment to the appropriate class," says McLoughlin.

The names of the patients are forwarded to the disease state managers who conduct the classes and follow the patients in the primary care centers, she explains. ■

(Continued from page 54)

measurement and analysis, physicians appreciate them more fully. They want to see evidence that quality of care has improved or will improve using the pathway. "Doctors respond better to outcomes-based care plans rather than time-based," she says.

Creativity is one of the best parts of being a case manager, Brillant agrees. "The challenge to your critical thinking is what the job is all about," she says, "and the reward is when you get everyone's cooperation. It doesn't happen overnight, but with persistence."

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Editorial Questions

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Enhance pathways to make patient central focus

VUMC's pathway care adds unique dimensions

In a unique approach to acute pathway-based care, Vanderbilt University Medical Center (VUMC) in Nashville, TN, has put important "addendums" in its pathway collection. Besides the typical clinical guidelines for care, Vanderbilt case management uses order sets and guidelines for things such as spiritual needs, spiritual distress, and specific age-related issues, all of which can be part of almost any illness or procedure.

These "overlays," as **Irene Hatcher**, MSN, RNC, coordinator of case management and clinical pathway development, calls them, can be paired with any diagnosis or treatment-related pathway. "Probably the best way to apply a spiritual needs path would be if the hospital has an electronic system capable of merging or overlaying paths, such as the Pathworx System in use at VUMC. A Spiritual Needs Set has been developed, which can be 'overlaid' on any disease or procedure pathway," she says.

"There is certainly evidence out there that shows that patients who are in spiritual distress really do not do as well, clinically," she notes.

VUMC's electronic order set system, Pathworx, was developed in-house, but other programs can accomplish similar results. With less time spent on pen-and-paper records, nurses are free to really care for patients, including their spiritual needs, or for example, specific needs they might have as patients over age 75. "You can have the pathway for instance, for appendectomy, and then you bring the Above Age 75 Set to it; it makes the appendectomy pathway for a 16-year-old and a 76-year-old look very different," she says, and more appropriate to each patient as an individual.

VUMC has not yet collected any of its own evidence to prove that addressing these additional needs cuts length of stay or produces better outcomes, because outcomes are being measured within the original diagnosis, not the additional order set.

"Quite frankly, we're just now putting it into a set and trying to make it more user-friendly." But Hatcher anticipates that, in addition to creating better outcomes for the hospital, her brand of pathway usage will truly create better care.

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CE objectives

After reading each issue of *Hospital Case Management*, the nurse will be able to do the following:

- identify particular clinical, administrative, or regulatory issues related to the profession of case management;
- describe how those issues affect patients, case managers, hospitals, or the health care industry in general;
- cite practical solutions to problems associated with the issue, based on independent recommendations from clinicians at individual institutions or other authorities. ■