Case Management ADVISOR™

Covering Case Management Across The Entire Care Continuum

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Readmissions are costly to providers, payers, and impact quality of life

Collaborate across the continuum to ensure smooth transitions

In today's healthcare environment, as patients are being discharged from the hospital sicker and quicker than ever before, some patients are in and out of the hospital as if they are going through a revolving door, says **Catherine M. Mullahy**, RN, BS, CRRN, CCM, president and founder of Mullahy & Associates, a case management training and consulting company based in Huntington, NY.

"Something happens between the time people leave the hospital and when they are readmitted within a short period of time. As case managers, we need to identify what is happening and develop a concerted plan to avoid it," Mullahy says.

The problem is especially acute among Medicare recipients who often are frail with multiple comorbidities and polypharmacy issues. They might be socially isolated with little family support and have hearing and eyesight problems that impair their ability to understand and carry out their post-discharge plan, she adds.

According to a study in *The New England Journal of Medicine*, nearly 20% (19.6%) of all Medicare beneficiaries discharged from the hospital are readmitted within 30 days, and 35% are rehospitalized within 90 days.[1]

Reducing Costly Readmissions

As hospital lengths of stay get shorter, more patients are at risk for being readmitted within 30 days because they don't have the knowledge, medication, or equipment needed to stay healthy at home. In this issue, we look at some of the causes of readmissions and what case managers can do to help keep patients from going back to the hospital.

In this issue, we'll describe how to determine the cause of readmissions and prevent them from happening and how one health plan saved more than $1 million in 10 months by placing care coordinators in the hospital to ensure patients' discharge needs are met. You'll learn about a program of post-discharge telephone calls and how a heart-failure clinic uses telemonitoring for at-risk patients. It's all in this issue of *Case Management Advisor.*

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Data posted on the Centers for Medicare and Medicaid Services (CMS) Hospital Compare web site (http://www.hospitalcompare.hhs.gov) in July 2010 shows the 30-day readmission rates were 19.9% for heart attack patients, 24.7% for patients with heart failure, and 18.3% for patients hospitalized with pneumonia from July 1, 2006, to June 30, 2009. These rates were essentially the same as the 2005-2008 rates. The average stay of rehospitalized patients was .6 days longer than patients in the same diagnosis-related group who had not been hospitalized for at least six months, *The New England Journal of Medicine* study reports.

When she spoke at a seminar for case managers several years ago, Mullahy was startled to find that many hospital case managers were doing little to prevent readmissions because they believed that when patients were readmitted, that meant more revenue for the hospital. "We're supposed to be doing what is best for patients. As long as payers were reimbursing for it, nobody did anything differently to prevent readmissions," she says.

That's going to change since CMS has announced its intentions to penalize hospitals when patients with pneumonia, heart failure, or heart attack are readmitted within 30 days, beginning with discharges on Oct. 1, 2012. The agency has declared that it is likely to add other conditions to the list in the future. In addition, an explicit provision in the Patient Protection and Accountable Care Act mandates that in fiscal 2014, hospitals in the highest quartile for hospital-acquired conditions receive a 1% reduction in total Medicare reimbursement, and CMS has proposed using hospital readmissions as one of the processes of care measures used to determine hospital reimbursement in its value-based purchasing system.

Readmissions are expensive, says **Cory Sevin**, RN, MSN, NP, director with the Institute for Healthcare Improvement (IHI), an independent, not-for-profit organization in Cambridge, MA that works with providers to achieve safe and effective healthcare. "In a report to Congress in 2007, MedPac estimated that readmissions within 30 days account for $12 billion in Medicare spending each year,"[2] Sevin says. "In addition, when patients go in and out of the hospital and are very sick, it impacts their quality of life. In the hospital, they are at risk for infections, falls, and medical errors."

The best way to prevent hospital readmissions is to make sure the patients are better managed and receive the care they need after they leave the hospital, says **Donna Zazworsky,** RN, MS, CCM, FAAN, vice president of Community Health and Continuum Care for Carondelet Health Network in Tucson, AZ. *(For tips on how to prevent readmissions, see story on p. 40.)* "Many patients are readmitted to the hospital because they don't have what they need to stay stable once discharged back into the community. If patients don't have the basic things they need to take care of themselves, it can derail a discharge," Zazworsky says.

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EDITORIAL QUESTIONS

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EXECUTIVE SUMMARY

About 20% of Medicare beneficiaries are readmitted to the hospital within 30 days of discharge, costing the program an estimated $12 billion a year. The best way to prevent readmissions is to make sure patients have what they need to stay healthy at home.
• Make sure patients and caregivers understand the discharge instructions.
• Educate patients on the need to have a timely follow-up visit with their primary care physician.
• Identify the causes of readmissions, and make changes to help avoid them.

About half of patients discharged from the hospital don't understand what to do when they get home, Sevin says. Hospital stays are very short, and inpatient education activities often do not ensure that patients and their caregivers understand the key information needed for the patient to stay stable, she adds. "When the discharge instructions are complicated and the patient is ill and frail, it's even harder to make sure they understand. Many times family members, primary care physicians, and post-acute providers don't have the information they need to help the patient remain stable," Sevin says.

Patients and family members need to understand how to take their medication, any dietary restrictions, signs and symptoms that indicate they should seek medical care ,and who to call. Sevin advises using the "teach-back" method, which involves having patients or caregivers repeat their discharge instructions to ensure that they understand them. Post-actute providers need complete and accurate information about what happened during the hospital stay, medication regimen, details of the patient's post-discharge treatment plan as ordered by the physician in the hospital, and any psycho-social issues or other issues that could impact the patient's post-acute stay.

Case managers should make sure patients understand their treatment plan and their medications, that they have support at home, that they have a follow-up visit with a physician, and that caregivers and providers at the next level of care have the information they need to ensure a smooth transition, Zazworsky says. Sevin says, "A huge part of reducing readmissions is designing the care process across the continuum of care. Hospital case managers need to work with home health agencies, nursing homes, primary care physicians and specialists, and their counterparts at health plans to ensure that care is coordinated and that everyone is giving the patient consistent information."

Patients are at highest risk for readmissions during the first week after discharge, Zazworsky points out. For that reason, it's critical to make sure that patients have a follow-up visit with a primary care physician or a specialist within a week of being discharged from the hospital. "Case managers can do a wonderful job of educating patients, but if they don't get that follow-up visit, they are likely to have problems after discharge that could result in a rehospitalization or emergency room visit," Zazworsky says. "The linkage to the community beyond the hospital walls is critical."

It's not enough for case managers to come up with a discharge plan. They have a responsibility to make sure that the care plan they set up is working, that the supplies the patient needs at home were delivered, that the home health nurse showed up, and that the patient made a follow-up visit to the doctor, Mullahy says.

Identify the cause of readmissions

Case managers need to identify the causes of readmissions before they can begin to make changes in the discharge and follow-up processes to keep patients from coming back, Mullahy says.

"Providers and payers need to look backward before they start to look forward and to analyze each readmission to find out the root causes. Then they can start to address the issues that contribute to readmissions," Mullahy says.

For example, if patients are being readmitted to the acute care hospital after a stay in a skilled nursing facility, it might be that the transition to post-acute care wasn't smooth and gaps in care occurred, or it might be that the nursing home is providing less than optimal care, she says. If patients aren't seeing their physicians in a timely manner, it might be that they didn't understand the need to make the appointment within a week of hospital discharge rather than accepting the next available physician appointment, which might have been a month away, Mullahy adds.

"Find out what caused each readmission, identify trends, and go back and start chipping away at barriers and reasons for readmissions," she says. For example, many patients are readmitted because they don't get their prescriptions filled. Find out if it's because they can't afford the medi-

cation, they don't have transportation to the pharmacy, or another reason, Mullahy says.

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6 ways to prevent hospital readmissions

How to get the information you need

To prevent hospital admissions, gather as much information as possible about the patient's discharge needs, psycho-social needs, and support systems in the community, **Cory Sevin**, RN, MSN, NP, director with the Institute for Healthcare Improvement advises. Talk to family members and primary care providers who know the patient and can provide first-hand information, Sevin says.

Here five more tips from the experts on how you can keep your patients from being readmitted to the hospital:

• Look for barriers, such as cost or lack of transportation, that could prevent patients from receiving post-acute treatment, and problem-solve before the patient leaves the hospital. Work with patients to make sure that they can pay for any outpatient services or medications that are not covered by insurance, and help them get assistance if they can't pay. If something isn't covered by their insurance, contact the doctor to see if the treatment plan can be changed, suggests **Donna Zazworsky**, RN, MS, CCM, FAAN, vice president of Community Health and Continuum Care for Carondelet Health Network in Tucson, AZ.

• Make sure that chronically ill patients have the equipment they need to monitor their conditions after discharge and know how to use it, Zazworsky suggests. For example, make sure patients with diabetes obtain a glucometer that is covered by his or her health plan, she adds. If possible, provide the glucometer before the patient leaves the hospital.

• Help patients with chronic illnesses enroll in a disease management program, Zazworsky recommends.

• Make sure patients and caregivers understand the patient's condition, medication regimen, red flag signs and symptoms, and who to call if they occur, Sevin suggests. Use the teach-back method to make sure patients and caregivers understand, rather than just lecturing them.

• Implement a good hand-off to the providers in the next level of care, whether it's a rehab facility, skilled nursing facility, home care nurse, or physician. Make sure they have all the information about the patient's reason for hospitalization, medications, test results, plan of care, and discharge plan along with the ability to use the teach-back method to educate patients. Instead of waiting weeks after discharge to send the information, create a system to transmit it in a timely way, Sevin recommends. ■

On-site nurses reduce readmissions, overall LOS

Program saves health plan millions

By placing on-site nurse case managers in hospitals and post-acute facilities, Presbyterian Health Plan of New Mexico has saved more than $1 million in just 10 months, according to **Paula Casey**, MSN, RN, ONC, CCM, clinical director for inpatient and recovery services at the Albuquerque-based health plan.

The savings come from reducing readmission rates and from an overall reduction of length of stay for patients on the health plan's list of the top 15 diagnoses that result in readmissions, Casey adds.

Case managers in the health plan's Nurse Care Coordinator program have home offices and work on-site at hospitals, skilled nursing facilities, and a

rehabilitation facility in the Albuquerque area. The health plan case managers determine that members' needs are being met and address any gaps in care. They follow up by telephone after the patients are discharged to review discharge plans and needs.

As of January 2010, the 30-day readmission rate for Medicare Advantage members was 13%, far below the national average of 19.6% as reported by *The New England Journal of Medicine*, and the overall 30-day readmission rate for patients with all types in insurance was 6.8%. "My perspective is that a readmission is a failure of the discharge plan. When we saw the data on Medicare readmissions within 30 days, we knew we needed to do something better. Our readmissions rates are fairly low, but we still had opportunities for improvement," Casey says.

The health plan analyzed readmission data from all product lines — Medicare Managed Care, Medicaid Managed Care, and commercial products — and determined that its readmission diagnoses compared closely to Medicare's diagnoses. Medicare has announced that hospitals will be penalized for readmissions of patients with heart failure, pneumonia, and heart attack within 30 days after discharge. The health plan found that in addition to the three diagnoses cited by Medicare, a significant number of readmissions were occurring among patients with pancreatitis, dehydration, and septicemia.

The health plan's inpatient care coordination team looked at their own data, conducted a literature search, and identified steps they could take to reduce readmission rates. The team narrowed down the top 15 diagnoses that resulted in readmissions and identified patients with those diagnoses who were hospitalized. When patients with any of those diagnoses are hospitalized, a nurse case manager visits them in the hospital shortly after admission and again just before discharge whenever possible. With patients who have a very short length of stay, the case manager might make just one visit before discharge. When patients are from outside the Albuquerque metro area, the interventions take place by telephone.

During the first visit, the case manager talks about the role about the health plan in the discharge process and makes sure the patient understands his or her insurance benefits. On the pre-discharge visit, the case manager reviews the discharge plan with the hospital discharge planner and intervenes, if necessary, to make sure the discharge plan is appropriate. "We encounter situations where the patient is being transferred to a rehab facility, but there is no way that he or she can tolerate the required three hours of therapy a day, and instances where the patient is scheduled to go home the next day but hasn't yet walked to the bathroom," Casey says.

If a patient is being transferred to a post-acute provider, the health plan makes sure that the facility receives the discharge information and the orders for the patient. The case managers attend the care conferences at the skilled nursing facilities and observe the patients while they are in rehabilitation to make note of their progress.

During the post-discharge telephone calls, the case managers go over the discharge plan again and make sure that all of the supplies and post-acute visits and services have been set up. They ask patients to bring all of their medicine bottles to the telephone. The case managers go over what medications are in the home and what has been prescribed to make sure there are no duplications. They make sure that patients understand their medication regimen. They intervene if there are any gaps in care. For example, one patient failed to get her prescription filled after discharge, which put her for risk at severe complications. The patient told the case manager that she had no transportation to the drug store. The case manager got the prescription faxed to a drug store that delivered.

Most of the time, patients receive their post-discharge phone calls from the nurse care coordinators they see in the facility. The exception is if patients are enrolled or are candidates for a disease management program. In that case, the disease management health coach team makes the calls.

"When a patient gets out of the hospital or a post-acute facility, it's a wonderful opportunity to capture them at a time that they are aware of their chronic condition and motivated to change," Casey says. ■

EXECUTIVE SUMMARY

Having on-site nurse case managers see patients face-to-face in hospitals and post-acute facilities has saved more than $1 million in just 10 months for Presbyterian Health Plan of New Mexico in Albuquerque.

- On-site care coordinators focus on patients in top 15 diagnoses that result in readmission.
- They visit patients just after admission and again before discharge.
- They address any gaps in care and follow up by telephone after discharge.

Following up care cuts readmissions

Post-discharge phone calls are a key

WellPoint's initiatives to reduce hospital readmissions by following up with Medicare Advantage members after discharge has decreased the readmission rate and reduced skilled nursing days, according to Karen Amstutz, MD, vice president and medical director of care management for seniors and state sponsored business for the Indianapolis-headquartered health benefits company.

"One of our key initiatives at WellPoint and across our health plans is to look at the cost of care and identify the areas where we can make the greatest impact," Amstutz says. "Our readmission prevention initiatives use a range of tactics to identify members at risk for readmissions at the time of discharge and provide the appropriate level of case management that will keep them out of the hospital."

WellPoint's post-discharge follow-up program is based on Eric Coleman's Care Transitions Intervention model. The model was developed by a University of Colorado team led by **Eric A. Coleman**, MD, MPH, a geriatrician and professor of medicine at the university. It has four main components, called "Four Pillars:"

- teaching patients medication self-management;
- educating them to recognize warning signs and symptoms and what to do when they occur;
- ensuring follow-up care with a primary care physician;
- facilitating patients' ownership of their personal health records.

EXECUTIVE SUMMARY

WellPoint's post-discharge follow up program for Medicare Advantage members has decreased the readmission rate and cut skilled nursing days by identifying members at risk for readmission and providing the appropriate level of post-discharge case management.

- Low-risk members receive telephone calls from the health plan's outreach staff and are transferred to a nurse case manager if there are issues.
- Cross-functional care teams round on patients with complex needs and collaborate on addressing issues that might result in readmission.
- Utilization review nurses and case managers have separate functions but work together to address patients' needs.

After Medicare Advantage members are discharged from the hospital, the health plan's outreach staff and case managers implement interventions that are based on the member's level of risk for readmission. Members at low risk receive telephone calls. Based on the severity of their condition and their level of risk, other members would receive short-term telephonic case management or are enrolled in long-term complex case management.

The health plan's outreach staff calls all of the Medicare Advantage population after discharge, regardless of their risk level, and is able to reach about 95% of them. These non-clinical staff members have been trained to conduct the post-discharge telephone calls and use a script developed by the health plan's multidisciplinary care coordination team.

About 10% of the low risk members who receive calls have issues that need attention, Amstutz says. Common problems include confusion about medication or the treatment plan, untreated pain, or lack of caregiving support. In some cases, the home care nurse hasn't shown up or needed equipment hasn't been delivered. If a member is having problems or has a question, the staff can transfer the call directly to a nurse case manager.

The outreach staff members ensure that the members have a follow-up appointment with their physicians. If necessary, they can institute three-way calls with the physician office or transfer the member to a case manager to help coordinate the appointment.

Teams are assigned geographically

WellPoint's multidisciplinary Geographic Care Support Teams are a key to the success of the program, Amstutz says. The team includes medical directors, case managers, and utilization review nurses who assigned by geographical areas, which allows them to focus on the resources and providers in their particular area.

The cross-functional teams conduct rounds on hospitalized members who have complex treatment needs and who have been in the hospital 10 days or longer without moving to the next level of care. While the patients are in the hospital, the team members discuss who is likely to be at risk for readmissions. They determine what the patients need after discharge to avoid hospitalizations and/or emergency department visits.

The health plan's utilization review nurses and case managers have separate functions, but they

work as a team to coordinate care. This coordination has been the key to the program's success, Amstutz says. "We have found that it's more efficient to assign utilization review and case management responsibilities to different staffs. If one nurse is responsible for both functions, they spend a lot of time setting priorities and don't get as much work done," she adds.

Members who receive short-term case management often need help transitioning to the community. For example, a newly diagnosed diabetic might need education about managing his or her disease before being handed off to the health plan's disease management program. Members who receive long-term case management have complex needs and need interventions over a longer span of time.

WellPoint has implemented a pilot project in Georgia in which home health nurses meet face-to-face with recently discharged patients, reinforce the discharge plan, conduct medication reconciliation, and educate patients about symptoms that indicate they should call their doctor. "When someone visits members in their home, they can identify issues that might not be evident to a telephonic case manager. The pilot provides visits to a very low volume of members. Based on its success, we're working to develop ways to expand the program," she says. ■

HF management program decreases readmissions

Clinic, phone, and remote monitoring used

The first year after Piedmont Hospital in Atlanta implemented a Heart Failure Resource Center that provides care coordination for patients discharged with heart failure, the 30-day rehospitalization rate for heart failure patients in the program decreased from 4.6% to 1.6% when compared to heart failure patients treated at Piedmont and not in the program. At the same time, the 90-day readmission rate dropped from10.4% to 2.9% for patients in the program when compared to patients treated at Piedmont Hospital for heart failure who did not receive the interventions and were readmitted.

Nurse practitioners function as clinical care coordinators and consult physicians if needed. They meet with patients at the clinic on a regular basis and consult with them on the telephone to answer questions and help them manage symptoms between visits. About 70 patients who are at high risk for readmission, who need extra help in self-managing their condition, or who live outside the Atlanta area use a remote tele-monitoring system that plugs into their home telephone line and alert the nurses when a patient's condition deteriorates.

The nurse practitioners follow evidence-based protocols approved by the program's medical directors and participate in multidisciplinary weekly rounds to evaluate and discuss new patients. The team includes a clinical nurse specialist, staff nurses, a clinical pharmacist, a cardiac rehab specialist, a clinical case manager, the program manager, and medical directors.

"We teach the patients from day one that we do not provide emergency care. We teach them to recognize heart failure symptoms earlier so we can help them avoid them having an acute episode of heart failure and save a trip to the hospital," says **Julie Webster**, NP, nurse practitioner and clinical manager at the facility.

Most of the patients in the program are referred by their physicians after they are hospitalized with heart failure. The initial clinic visit takes about two hours and included a comprehensive evaluation and detailed education about heart failure. The nurse practitioners work with the patient to develop a plan of care and to set goals. "We collaborate closely with the patient's cardiologist or other physician. We send all our notes, clinic visit

EXECUTIVE SUMMARY

At Piedmont Hospital's Heart Failure Resource Center in Atlanta, advance practice nurses function as clinical care coordinators and manage the care of heart failure patients by seeing them in the clinic, consulting with them on the telephone, and using telemonitoring equipment to monitor high-risk patients.

- The 30-day readmission rate for patients in the program was 1.6% compared to 4.6% for patients not in the program. At the same time, the 90-day readmission rate was 2.9% for patients in the program, compared with 10.4% for patients not in the program.
- The nurse practitioners follow evidence-based protocols and work closely with a multidisciplinary staff that includes physicians, pharmacists, and a cardiac rehab specialist.
- Patients visit the clinic regularly and can call the nurse practitioners if they have issues or concerns.
- The program provides high-risk patients with a touch-screen computer connected to a scale and blood pressure cuff that alert the nurses if the patient's symptoms are getting out of control.

summaries, and treatment to the treating physician," Webster says.

The nurses educate patients about diet and salt intake, exercise, their medication regimen, smoking cessation, and what symptoms indicate that they should call the clinic. They give patients a comprehensive patient education book that the multidisciplinary heart failure treatment team developed for use in the hospital as well as the clinic. "We emphasize how important their medication therapies are and how important it is to be compliant with their treatment plan. If patients are uninsured or self-pay, we can refer them to a social worker who can help them apply for assistance," Webster says.

Most new patients come back to the clinic every two to three weeks for a couple of months. As they learn to manage their condition, they are seen less frequently.

The high-risk patients receive a touch-screen computer, a scale, and a blood pressure cuff they use every day to transmit weight, blood pressure, heart rate, and answers to a series of questions about heart failure symptoms to the advance practice nurses. The clinicians in the program established a threshold for each patient that indicates when their symptoms are getting out of control, Webster says. When patients' weight gain goes beyond the established parameters, blood pressure is elevated, or the patient reports shortness of breath or swelling, the patient's record appears in red on the computer screen at the clinic.

"If patients don't call us, we call him and get more information about the symptoms," Webster says. "Often we can manage over the telephone by modifying the patient's therapy and checking the next day to see how the symptoms have responded. In severe cases, we have the patient come into the clinic for evaluation and treatment, such as IV diuretics. One of our priorities in this program is to keep the patient's condition under control and avoid hospitalization." ■

Spinal surgery worsens workers comp outcomes

For workers' compensation patients with chronic low back pain, spinal fusion surgery leads to worse long-term outcomes — including a lower rate of return to work — compared to nonsurgical treatment, suggests a study in the Feb. 15 issue of *Spine*.

At a time of continued debate over the role of spinal fusion surgery (lumbar arthrodesis), the results suggest that this operation "may not be an effective operation for workers' compensation patients" with certain causes of low back pain. The lead author was **Trang H. Nguyen**, MD, of University of Cincinnati College of Medicine.

Using Ohio workers' compensation data, Nguyen and co-authors identified 725 workers with chronic low back pain who underwent spinal fusion surgery. Most of the patients in the study had degenerative disc disease, herniated discs, or nerve root disease (radiculopathy).

The researchers assessed the final treatment outcomes — including return to work, disability, and use of opioids — at two years' follow-up. They compared the results of spinal fusion with those in a random sample of 725 patients who underwent nonsurgical, conservative treatments such as physical therapy and exercise.

Almost all categories of outcomes were worse for patients undergoing spinal fusion. Just more than one-fourth of spinal fusion patients had returned to work, compared to two-thirds of those treated without surgery. Twenty-seven percent of patients in the spinal fusion group had repeat surgery, while 36% experienced some type of complication.

Eleven percent of the spinal fusion patients had permanent disability, compared with 2% percent of patients treated without surgery. Most spinal fusion patients continued using opioid drugs after their surgery, with many taking higher doses. There were also more deaths in the spinal fusion group.

The use of spinal fusion surgery for chronic low back pain has increased dramatically in recent years, despite a lack of consistent evidence that it improves patient outcomes. Few previous studies have looked at the use of spinal fusion surgery, compared to nonsurgical treatment, in workers' compensation patients.

Although it's not a controlled scientific trial, the study raises questions about the long-term effective-

EXECUTIVE SUMMARY

New research published in the Feb. 15 issue of *Spine* targets workers' compensation patients with chronic low back pain.

- Spinal fusion surgery led to worse outcomes in the long term when compared to nonsurgical treatment, the study found.
- The long-term outcomes included a lower rate of return to work.

ness of spinal fusion surgery for workers' compensation patients with chronic low back pain. Nguyen and co-authors write, "This procedure is offered to improve pain and function, yet objective outcomes showed increased permanent disability, poor return to work status, and higher doses of opioids." They also note the lack of evidence supporting the use of spinal fusion for degenerative disc disease, herniated discs, or radiculopathy — the diagnoses present in most of the workers in the study.

Spinal fusion should be "cautiously considered" in workers' compensation patients, Nguyen and coauthors believe, and then only for patients with diagnoses for which spinal fusion has proven specifically effective. ■

Spinal manipulation holds its own

Chronic lower back pain reviewed

For patients suffering from chronic lower back pain, a new review of existing research finds that spinal manipulation is as helpful as other common treatments like painkillers, according to the Health Behavior News Service, part of the Center for Advancing Health.

Spinal manipulation is also safe, researchers found. Ultimately, "the decision to refer for manipulation should be based upon costs, preferences of the patient and providers, and relative safety of all treatment options," said review lead author **Sidney Rubinstein**, DC, a chiropractor in private practice and a postdoctoral researcher at the VU University Medical Center in Amsterdam.

Surveys suggest that half of working Americans suffer from back pain each year. An estimated 25% of American adults reported that they suffered from back pain for at least a day within the last three months, according to a 2006 Centers for Disease Control and Prevention report, and lower back pain is the fifth most common reason that people go to the doctor.

Patients frequently turn to painkillers, which can cause side effects and be addictive, or to physical therapy, which is time-consuming and expensive. The new review looks at a third option: spinal manipulation.

In North America, Rubinstein said, chiropractors perform most spinal manipulation. Practitioners move their hands around a patient's spine and joints, often producing an audible crack. "The effectiveness of this therapy has long been controversial," Rubinstein said. "Some proponents are slowly starting to view it as effective for chronic low-back pain. The results of this review will support that view."

The review authors looked for randomized controlled studies, which are researchers consider as the most reliable forms of medical research. They found 26 studies with 6,070 participants that met their criteria for inclusion in their review, but deemed only nine studies to be of high quality. The findings appear in the latest issue of *The Cochrane Library*. The journal is a publication of The Cochrane Collaboration, an international organization that evaluates medical research. Systematic reviews draw evidence-based conclusions about medical practice after considering the content and quality of existing medical trials on a topic.

The researchers found that spinal manipulation worked about as well as the other treatments. It appears to work well in particular for certain kinds of patients, Rubinstein said, including those with restricted movement in the back, those without psychological issues, and those without symptoms below the knee related to the sciatic nerve. Spinal manipulation "appears to be no better or worse than other existing therapies for patients with chronic low-back pain," the review says.

There is one small caveat, however. In medical research, scientists often compare a treatment to a placebo, which is difficult when you are talking about something that's difficult to fake, such as spinal manipulation. Three of the studies reviewed the kind of spinal manipulation that produces a crack sound and tried to fool some patients into not realizing they were getting a sham treatment. However, it is unclear if they succeeded, Rubinstein said. One study appeared to show that patients could distinguish whether they were getting the real thing.

So how well do the treatments — spinal manipulation and the other examined in the review — work overall? Rubinstein said studies have shown that they help about two-thirds of patients. Other researchers say they have a modest impact at best.

Roger Chou, MD, a physician and researcher with Oregon Health & Science University who has studied back pain, said that in general, most treatments for lower-back pain "aren't all that effective, even the ones we think that work, but some people respond better than others."

"Right now the best we can say is that clini-

cians and patients have a number of moderately effective treatment options to consider, including exercise, manipulation, acupuncture, yoga, massage, cognitive behavioral therapy, and some of the analgesic medications, and that it should be a decision between the clinician and patient," Chou said. "In general, I think exercise is a preferred option since it has a lot of other health benefits."

Tim Carey, MD, MPH, director of the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill, said that many patients try several treatments, of which spinal manipulation is just one approach. "We do not have a good sense of how manual therapy fits in an exercise regimen in a patient who is also taking medication, just as an example," said Carey, who studies back pain. "While manual therapy seems to be an option for chronic low back pain, the evidence at present does not support a role as a preferred option." ■

Refer heart patients before leaving hospital

Healthcare practitioners can increase the number of patients with heart disease referred to a cardiac rehabilitation program by 40%, helping them to reduce their risk of dying and improve their quality of life, say researchers at the Peter Munk Cardiac Centre at Toronto General Hospital in Canada.

Previous studies, including one by Taylor in 2004, indicate that participating in cardiac rehab after a cardiac illness, such as a heart attack, can reduce the risk of death by approximately 25%, a reduction similar to that of other standard therapies such as statins and aspirin. In spite of this evidence, only 20-30% of patients are referred to a cardiac rehabilitation program after hospital discharge, a phenomenon observed in many countries.

Researchers at the Peter Munk Cardiac Centre explored multiple strategies to increase referrals to cardiac rehabilitation programs at 11 hospitals across Ontario, including using a discharge checklist for doctors and allied health professionals, electronic referral in medical records, and a talk with patients at the bedside. According to the study, "Effect of Cardiac Rehabilitation Referral Strategies on Utilization Rates," published in the Feb. 14 edition of the *Archives of Internal Medicine*, a combined approach — a checklist or electronic referral and talking with patients — can increase referrals by 45%. By targeting both healthcare providers and patients, more than 70% of eligible patients enroll in cardiac rehab.

"Every patient discharged from the hospital with a heart condition should be referred to a cardiac rehab program," says **Sherry Grace**, PhD, principal investigator and director of research for the Cardiovascular Rehabilitation and Prevention Program at the Peter Munk Cardiac Centre, University Health Network. "Cardiac rehab is a key component of the continuum of cardiac care. We shouldn't just discharge patients from the hospital without ensuring there is a link to these proven rehab services to support patients in their recovery." Grace is also an associate professor in the School of Kinesiology & Health Science at York University in Toronto.

Cardiac rehabilitation offers a comprehensive approach to health by combining medical treatments and lifestyle modification. Patients are able to benefit from services including education sessions; nutritional assessment with a dietician; risk factor treatment (hypertension, cholesterol, and smoking cessation) by physicians and nurse practitioners; medication review with a pharmacist; targeted exercise prescription by an exercise physiologist, nurse, or kinesiologist; and supervised exercise.

Dr. **Caroline Chessex**, clinical director of the Cardiovascular Rehabilitation and Prevention Program at the Peter Munk Cardiac Centre, is part of a multidisciplinary team who treats patients such as Walters by developing a personalized exercise program tailored to each patient's cardiac risk profile. "Our goal is to develop strategies for patients to reduce or eliminate their risk of coronary artery disease, prevent or minimize hospitalization, decrease mortality, and improve quality of life," says Chessex, noting that patients can prolong their life and reduce their risk of having a second heart attack or needing a second heart surgery.

Cardiac rehabilitation also saves money. Cardiac bypass surgery costs approximately $23,000 for each patient, but rehabilitation costs $1,000-1,500 per patient. "The return on investment is obvious. Focusing on expensive cardiac interventions and then discharging patients without a systematic approach for support just doesn't make sense," says Grace. "Cardiac rehab is the right step toward prevention, and it saves money."

The Canadian Institutes of Health Research (CIHR) and Heart and Stroke Foundation funded this study. ■

Options examined for stroke survivors

A physical therapy program that included task-specific walking training using a body-weight supported treadmill and over-ground practice was not shown to be superior in improving walking ability among stroke survivors compared to a home physical therapy program focused on structured, progressive strength and balance exercises and general encouragement to walk. This late-breaking science was presented at the American Stroke Association's International Stroke Conference 2011.

The primary analysis at one year after stroke demonstrated that 52% of participants had improved functional walking ability after participating in either of the two structured programs.

"All groups achieved similar important gains in walking speed, motor recovery, balance, functional status and quality of life" said Pamela W. Duncan, PT, PhD, principal investigator and professor at Duke University School of Medicine in Durham, NC. "However, the home program seems to be more practical with fewer risks."

Although comparable in outcomes, the task-specific walking program was associated with a small increased risk of adverse events such as dizziness or feeling faint while exercising. Individuals in the task-specific walking program, especially those with more severe walking limitations, were at increased risk for multiple falls over the one-year study.

This randomized trial, called "Locomotor Experience Applied Post-stroke" (LEAPS), included 408 recent stroke survivors (average age 62, 55% male, 58% Caucasian, 22% African American, 13% Asian), assigned to either:

- a task-specific walking program including body weight supported treadmill training provided early (two months post-stroke) or late (six months post-stroke), or
- a home program provided at two months post-stroke.

All participants were assigned 36 sessions of 75-90 minutes for 12-16 weeks. They were recruited from six U.S. stroke rehabilitation centers between April 2006 and June 2009.

At study entry, participants were considered severely limited in walking if their walking speed was less than 0.4 meters per second; for them functional walking was considered improved if they reached a speed needed for mobility in the home (more than 0.4 meters per second). Walkers were considered moderately limited if their initial walking speed was more than 0.4 but less than 0.8 meters per second; they were considered improved if they reached a speed needed for independent mobility outside the home (more than 0.8 meters per second).

Individuals demonstrated similar improvements in walking whether the task-specific walking training was provided at two or six months post-stroke, and both severely and moderately limited walkers improved with all programs.

In a secondary finding at six months post-stroke, a group who had not yet received any therapy beyond usual care showed improved walking speed, but only about half as much as the participants who received one of the two therapy

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COMING IN FUTURE MONTHS

- Why you need to assess your patients' healthcare literacy
- How technology is transforming case management
- Balancing loyalty to patients, employers
- Interventions that cut down on pre-term births

CNE QUESTIONS

13. How much does MedPac estimate hospital readmissions cost Medicare each year?
A. $10 billion
B. $12 billion
C. $14 billion
D. $15 billion

14. What was the readmission rate among Medicare Advantage members of Presbyterian Health Plan as of January 2011?
A. 19%
B. 16%
C. 13%
D. 6%

15. What percentage of low-risk members of WellPoint's Medicare Advantage Plan have post-discharge issues when they are contacted by the health plan?
A. 10%
B. 12%
C. 14%
D. 20%

16. The first year Piedmont Hospital implemented its Heart Failure Resource Center, what was the 30-day readmission rate for patients in the program?
A. 4.6%
B. 2.9%
C. 1.6%
D. 1.2%

Answers: 13. B; 14. C; 15. A; 16. C

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programs at two months. The six-month findings suggest that both programs are effective forms of physical therapy, and both are superior to usual care provided according to current standards.

In the United States, nearly 800,000 people suffer a stroke each year and 2/3 of survivors have limited walking ability after three months, according to Duncan. This study gives stroke survivors the hope that walking can continue to improve over time, and recovery might be enhanced by well-designed physical therapy programs, she said.

Home-based therapy programs with structured, progressive strength and balance training are more accessible and feasible in current practice than the task specific walking program tested in this trial. ■

CNE OBJECTIVES

After reading this issue, continuing education participants will be able to:
1. Identify clinical, legal, legislative, regulatory, financial, and social issues relevant to case management.
2. Explain how the clinical, legal, legislative, regulatory, financial, and social issues relevant to case management affect case managers and clients.
3. Describe practical ways to solve problems that case managers encounter in their daily case management activities.

CNE INSTRUCTIONS

Nurses participate in this continuing education program by reading the issue, using the provided references for further research, and studying the questions at the end of the issue. Participants should select what they believe to be the correct answers, then refer to the list of correct answers to test their knowledge. To clarify confusion surrounding any questions answered incorrectly, please consult the source material. After completing this semester's activity with the June issue, you must complete the evaluation form provided in that issue and return it in the reply envelope provided to receive a credit letter. ■