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Case Management ADVISOR™

Covering Case Management Across The Entire Care Continuum

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Resource Bank

FEBRUARY 2000

VOL. 11, NO. 2 (pages 21-36)

American Health Consultants® is A Medical Economics Company

Professional development

Take the guesswork out of finding the right person for the right job

Here's a step-by-step guide to foolproof hiring

You have a clear mission statement. You have a case management job description that carefully follows the Standards of Practice for Case Management developed by the Case Management Society of America (CMSA) in Little Rock, AR. Yet you still can't seem to hire a qualified case manager who stays on the job more than six months. Sound familiar?

When it comes to finding qualified employees, it's a seller's market. Employers are finding it harder to recruit, hire, and retain the best and the brightest, and the case management industry is no exception to the rule. Struggling to find the right person for your case management opening is not only frustrating, it's expensive. Replacing a $35,000-a-year employee can cost an organization more than $11,000. **(See formula, p. 23, for calculating how much it costs you when you hire the wrong person for the job.)**

"I've owned my own case management company for the past 15 years, and I'm finding it increasingly difficult to find qualified employees. The field is growing, but there are still too few people with the right experience," says **Catherine M. Mullahy**, RN, BS, CRRN, CCM, president of Options Unlimited, a case management company based in Huntington, NY.

Traditional channels for advertising job openings may not be as effective in today's marketplace, notes **Carl Keller**, BA, PHR, president of two human resource and strategic business planning firms in Little Rock, AR, Employee Directions and Business Innovators. "We are currently experiencing very low unemployment. You may have to prospect for new hires in nontraditional areas. You may also have to hire someone

who on the surface does not appear to be the best candidate and train them."

Mullahy says she's more than willing to consider candidates whose background includes no specific case management experience and then train them to do case management. "I'm very willing to do that. In this market, sometimes that's your only choice. I'm willing to spend the time to train someone. I just want to make sure that if I take the time to train them, they will stay on the job long enough to be worthwhile."

How does your garden grow?

Bill Brookings, RN, BSN, a utilization manager with a large health maintenance organization in Texas, says he understands he may have to hire a job candidate with little case management experience, and that's just fine with him. He looks for a case management candidate with "passion and intensity." To find out if a potential case manager has that type of fire, Brookings has a set of interview questions he uses with every potential new hire. "They're difficult questions. There isn't always a right or wrong answer."

Brookings' interview questions include the following:

- **Define managed care.**
- **What are your best and worst skills and traits?**
- **Tell me about a recent case management decision you made and how it impacted a case.** "Their answer to that question tells me a lot about their values," he notes. "What do they think the right thing is and what do they perceive quality as?"
- **What are your hobbies?** "This often confuses a job candidate," notes Brookings. "I want to know is this a person who sits alone in the dark reading or is this someone who takes pride in their garden? I much prefer someone who is willing to take the time to perfect something."
- **How do you define a difficult manager?** "If I get a litany of how bad their past bosses were, I get a little suspicious that this might be a person who can't get along with anyone," he says.

After he interviews potential candidates, Brookings brings them out to "meet the gang." "Introduce the candidate to everyone on the case management staff and encourage them to collect cards from staff members and call them up later when they get home," he says. "I encourage them to ask our nurses the good and bad things about working here. I tell them to find the newest person on the job and ask them what it is like to be new here. I tell job candidates to ask those employees what it's really like to do this job. I also assure them I will never know whether or not they called."

Brookings says that process eliminates some of the on-the-job surprises that too often lead to quick turnover in new hires. However, sometimes even the most stringent hiring process still ends in a hiring fiasco.

Mullahy has always used a multistep process to hire new employees. The first step in that process is a careful review of resumes with a focus on case management-related experience. The second step is a telephone interview. Candidates who perform well on the telephone interview are invited to the office for an in-house interview with members of her staff. Candidates who pass the first in-house interview return for a second on-site interview where they spend several hours observing staff in their job capacity. "We watch for the candidate's reactions to certain situations. We try to get a feel for how the candidate might respond to stress."

Yet even with such a careful and thorough hiring process, Mullahy at times has ended up with a bad fit. "The problem is that some people just interview extremely well. You can tell by how polished they are that they've been through the process many times," says Mullahy. "I've been frustrated more than once by bad decisions despite hours spent going over resumes, placing ads in appropriate publications, and being careful on the job training and orientation. The problem is that there are things case managers have to do that have nothing to do with clinical experience and education and everything to do with personality.

COMING IN FUTURE MONTHS

- Nursing project improves care of older adults
- Determine the right balance for alternative medicine in managed care
- Find out what you can really do to increase patient compliance
- E-management: Learn how to use the Internet to manage chronic conditions
- Make sure your case management model meets demand for accountability

"It has more to do with personality. Do they have what it takes to get things accomplished? Are they creative thinkers?"

Mullahy and others have turned to a new employee profiling system called the Prevue Assessment, which was developed by Keller's company to benchmark the best employees in each of a company's job categories. "We assess the best of a company's current employees and develop a profile of their personality traits. This gives an employer something to measure potential new employees against," explains Keller.

The Prevue Assessment is divided into three categories: abilities, motivation/interests, and personality. Each category includes several subcategories, and individuals receive a score of one to 10 with 10 being the highest for each category.

Abilities measured by the tool include:

- working with numbers;
- working with words;
- working with shapes.

Motivation/interests measured by the tool include:

- working with people;
- working with data;
- working with things.

The tool rates an individual's personality traits along a continuum between two characteristics. Those include:

- diplomatic vs. independent;
- cooperative vs. assertive;
- submissive vs. conscientious;
- spontaneous vs. conventional;
- reactive vs. organized;
- self-sufficient vs. group-oriented;
- excitable vs. relaxed.

Assess your choices

The Prevue report provides an employer with the characteristics of an employee who performs well at a given job, says Keller. "This gives you a reproducible tool to help you validate other information and input you have when you make hiring decisions. You receive a raw score for your best performers. If you use the same instrument to test a candidate, and [the] results match up well to a model employee you already have in that position, that's the individual you want for that job."

Mullahy has added Keller's assessment tool to the final stage of her hiring process. "After the second in-house interview, when we've narrowed our decision to two or three candidates, then we test candidates using the Prevue Assessment," she says. "We've used the tool on two new hires. The test brought out things that would not have come out in an interview and might have been a concern to me for an individual holding that job. For example, one candidate's profile indicated she was very excitable and didn't work well in stressful situations. I knew immediately she would not survive long in the position we were considering her for," notes Mullahy.

To date, Mullahy has hired two new employees using the Prevue Assessment, and she says they have fit in nicely.

CMSA's management firm also has used Keller's employee profiling tool. "We were

Calculating the high cost of employee turnover

You've probably heard people say organizations lose thousands of dollars each year due to employee turnover, but do you have any idea how to calculate what your case management program loses in dollars and cents each time one of your case managers walks out the door?

Here's a formula suggested by **Carl Keller**, BA, PHR, president of two human resource and strategic business planning firms in Little Rock, AR, Employee Directions and Business Innovators:

1. Each time an employee leaves, the average turnover cost comes to 25% of the employee's total annual wage. For example, for an employee earning $35,000, 25% would be $8,750.

2. Added to that cost is 25% of the total benefits associated with the employee. Nationally, the average employee's benefits equal 30% of the employee's annual wage. For that same employee earning $35,000 annually, 30% equals $10,500 in benefits, of which 25% totals $2,625.

3. When you add $2,625 to the $8,750 calculated in the previous step, you have an average total cost for refilling that one $35,000 position of $11,375.

In addition, Keller notes, there are other hidden costs of high employee turnover. "You have lost productivity and poor morale among your remaining employees. You also lose customer satisfaction. Remember, your customers include patients and their families, but also providers and internal customers such as managers and top executives," he says. "Every time you lose an employee, you lose some continuity, which leads to customer dissatisfaction." ■

having typical employee hiring problems," notes **Cathy Crowell**, senior director of administration and conference director for CMSA. "We would interview people, and they would interview so well. They seemed to answer all of our questions in just the right way. Unfortunately, the minute we brought them in-house, we found they were lacking in the necessary skills to get the job accomplished."

The tool not only helps an employer weed out less-desirable candidates, it also helps employers identify areas to focus on during training. "We like the way the tool tells us how to work with new hires to increase their abilities to perform the job well. The tool helps you make an honest appraisal of an individual, and you can decide whether you are willing to take someone with weaknesses in a given area and work with them," says Crowell, adding that every new employee hired with the help of the Prevue tool has worked out well. "In every case, we've made the right hiring decision. After struggling for so long with turnover, this has really relieved our anxiety."

Motivate early, often

In fact, the Prevue tool can be used as a motivational tool to encourage new employees to gain new skill sets in order to advance, notes Keller. "You can use the tool to help an employee chart a succession plan for their growth and longevity with the company," he says. "You can explain to them that if they picked up these additional skill sets, they might be able to move into a job with a salary range of $25,000 to $40,000 instead of their current position with a range of $18,000 to $25,000."

Keller's company sells the software to run the Prevue Assessment test for about $1,200 and trains organizations to administer it. Smaller organizations also can choose to have Employee Directions administer the test for a flat per-use fee of roughly $150.

"We prefer to install the software on our clients' systems so that they can build their own internal patterns into the process. This is a tool to help you validate other information and input you have already gathered in your hiring process," says Keller. "You still want to review those resumes and do those background checks. But this tool goes beyond that. It gives you a profile that is specific to the company, the position, and even perhaps to the geographic location." ■

Workers' comp/disability management

Images in study show acupuncture eases pain

Electro-acupuncture relieved pain in all patients

A small but encouraging study provides visual proof that acupuncture may offer a viable alternative to medications such as morphine for chronic pain. Researchers at the University of Medicine and Dentistry of New Jersey in Newark used a relatively new form of brain imaging to assess brain activity while acupuncture techniques were being performed.

The study used functional magnetic resonance imaging (fMRI) to "light up" areas of brain activity based on increased blood flow in the portion of the brain being stimulated. "We're using a new technology to understand how this 2,500-year-old technique [acupuncture] works," says **Huey-Jen Lee**, MD, chief of neuroradiology at the University of Medicine and Dentistry of New Jersey, who presented the study findings at the recent 85th Scientific Assembly and Annual Meeting of the Radiological Society of North America in Chicago.

Researchers measured the pain threshold before acupuncture was performed by inducing slight pain in 12 subjects by repeatedly using a filament to touch the outside or inside of the upper lip. In all 12 subjects, fMRI showed quite a bit of brain activity, particularly in the parietal area and the brain stem. Seven subjects received acupuncture with manual stimulation, in which a hair-thin acupuncture needle is inserted and twisted manually. The remaining five subjects received electro-acupuncture with low-level electrical current stimulation through the needle.

Functional MRI was performed repeatedly during pain stimulation, and brain activities were recorded. Then, the patient received a 30-minute period of acupuncture stimulation. During the 30-minute period, subjects rated their pain every five minutes on a scale of one to 10.

Researchers found that 57% of subjects receiving manual acupuncture and 100% of subjects receiving electro-acupuncture showed significantly decreased brain activity. In addition, those decreases in brain activity corresponded with the

decreased levels of pain the subjects reported experiencing.

"We found activity subsided in 60% to 70% of the entire brain," says **Wendy Ching Liu**, PhD, assistant professor of radiology at the University of Medicine and Dentistry of New Jersey. "Interestingly, in each subject, we detected pain-induced activity in different areas of the brain."

"So many people with pain, whether from cancer, headache, or a chronic unexplained condition, rely on medications such as morphine, which can become addicting," says Lee. "Acupuncture has no side effects, and other studies have shown that the pain relief it provides can last for months." ■

Behavioral health

Survey: Patients aren't satisfied with treatment

Few report adequate depressive symptom relief

More than 20 medications on the market currently are approved for the treatment of clinical depression, yet the majority of people treated for this costly disorder report troublesome side effects and only modest improvement in their condition, according to a recently released survey conducted by the National Depressive and Manic-Depressive Association (NDMDA) in Chicago.

In an on-line survey of 1,370 people treated for depression, only 29% reported being satisfied with the treatment of their disease. "This survey gives a voice to many depression sufferers who cannot tolerate their antidepressant medication or aren't satisfied with the improvement in their symptoms," says **Lydia Lewis**, executive director of NDMDA.

"While we know that treatment works for more than 80% of those suffering from a depressive illness, we still urgently need new strategies for managing depression. The solutions lie in continued research and improved dialogue between patients and physicians," she says.

The survey, conducted on-line during a six-week period in 1999 through the NDMDA Web site, screened for participants who had been treated for depression. Findings include:

• 78% of respondents said being treated for symptoms at the time of the survey.

• 81% said depression moderately or extremely impaired their social lives.

• 79% said depression moderately or extremely impaired their family lives.

• 72% said depression moderately or extremely impaired their job performance.

• More than 50% reported feeling misunderstood or disrespected by their physicians.

"Many physicians fail to take depression seriously," Lewis says. "I'm afraid few physicians approach depression with the same seriousness they would asthma or diabetes. It's that stigma and ignorance that often sends depressed individuals running to the health food store to ask a minimum wage clerk whether or not St. John's Wort will help alleviate their depression. It's also what leads 20% of individuals with untreated or

(Continued on page 31)

Not just a case of the blues

A recent on-line survey of more than 1,300 individuals with clinical depression found that less than 30% are satisfied with their treatment. To demonstrate the significance of that finding, consider these facts compiled from a review of the literature by the National Depressive and Manic-Depressive Association in Chicago:

• Clinical depression costs the United States $43.7 billion annually, including $23.8 billion for workplace costs for absenteeism and lost productivity, $12.4 billion in direct costs for treatment and rehabilitation, and $7.5 billion in lost earnings due to depression-induced suicides.

• Depression affects nearly 10% of Americans ages 18 or older each year, or more than 20 million people in 1999.

• An estimated 200 million days of work are lost each year due to untreated symptoms of depression.

• Persons with depression who suffer a heart attack have a three times greater risk of death within six to 18 months following the heart attack than those without a history of a depressive illness.

• Untreated depression is the most common psychiatric disorder and the leading cause of suicide in the elderly. The suicide rate for older adults is more than 50% higher than the rate for the nation as a whole. ■

MEDICATIONS FOR DEPRESSION

MEDICATION CLASS	MEDICATIONS (Trade Names)	HOW IT WORKS IN THE BRAIN	POSSIBLE SIDE EFFECTS	OTHER USES
SSRI selective serotonin reuptake inhibitors	Celexa® Luvox® Paxil® Prozac® Zoloft®	+serotonin	Nausea Insomnia Sleepiness Agitation Sexual dysfunction	Panic Disorder OCD Bulimia
AMINOKETONE	Wellbutrin®	+norepinephrine +dopamine	Agitation Insomnia Anxiety	Smoking cessation
SSNRI selective serotonin norepinephrine reuptake inhibitors	Effexor®	+serotonin +norepinephrine	Agitation Nausea Dizziness Sleepiness Sexual dysfunction	
SSRIB selective serotonin reubtake inhibitor & blocker	Deseryl® Serzone®	+serotonin	Nausea Dizziness Sleepiness	
TRICYCLIC	Remeron®	+serotonin +norepinephrine	Sleepiness Weight gain Dizziness	
TCA Tricyclic-Heterocyclic	Anafranil® Elavil® Norpramin® Pamelor® Surmontil® Tofranil® Vivactil®	+serotonin +norepinephrine (depending on medication)	Sleepiness Nervousness Dizziness Dry mouth Constipation High overdose toxicity	Panic Disorder OCD
MAOI monoamine oxidase inhibitors	Nardil® Parnate®	+serotonin +norepinephrine +dopamine	Fatal interaction with all above Dizziness Interaction with some foods	Panic Disorder
MOOD STABILIZER (used to augment antidepressants)	Eskalith® Lithobid® Lithonate®	+serotonin	Tremor High overdose toxicity Dry mouth Nausea	Bipolar Disorder
SNRI selective norepinephrine reuptake inhibitors	Reboxetine (new class available in the year 2000)	+norepinephrine	Dry mouth Constipation Increased sweating Insomnia	

This chart was reprinted from the National DMDA brochure, "Finding Peace of Mind: Medication Strategies for Depression." *To receive this most recent, up-to-date treatment brochure, contact the National DMDA at 800-826-3632 or www.ndmda.org.*

Reports From the Field™

Market trends

Business groups seek quality

Managed care organizations should pay close attention to a growing trend described in a recent article in *Health Affairs,* which suggests that many business coalitions are bypassing health plans and negotiating directly with providers to offer the best quality of care for the dollar.

Researchers analyzed data from a 1998 survey of 75 business coalitions and interviewed nine business health coalition leaders. They found that these regional, state, and local employer groups are using their market power to contain their own health costs.

Most coalitions use incentives, penalties

Findings include:

• 90% of coalitions reported collecting and analyzing data about health plans and providers.

• Four of five coalitions reported negotiating the terms of one or more health benefits with health plans and providers.

• 35% of coalitions reported bypassing health plans and negotiating comprehensive coverage directly with providers.

• Nearly six of every 10 coalitions that reported negotiating coverage, whether from health plans, providers, or carve-out services, write performance incentives (such as bonuses and premium rebates) and penalties (such as withholding payments) into their contracts.

Researchers report that coalitions use incentives to encourage cost reduction and improved customer service and to encourage and reward good clinical care.

[See: Fraser I, McNamara P, Lehman GO, et al. Pursuit of quality by business coalitions: A national survey. *Health Aff* 1999; 18:158-165.] ■

Behavioral health

Carve-out programs reduce costs

Carve-out programs for special health conditions, such as mental health and substance abuse problems, are not included in health insurance plans' covered services. Instead, they are covered under a separate contract. Now, a study finds that carve-out plans can reduce overall costs for these services by more than 50%.

The Massachusetts Group Insurance Commission adopted a carve-out program in 1992 to cover mental health and substance abuse services. The commission sought a soft capitation contract that exposed the vendor to a limited amount of financial risk.

The carve-out results include:

• 54% decrease in total episode costs for individuals with unipolar depression;

• 33% decrease in total episode costs for those with substance abuse.

Researchers concluded that these savings were the direct result of a shift from expensive traditional inpatient care to less-intensive and

less-expensive partial hospitalization services and traditional outpatient care for people with unipolar depression. It was not clear whether the decreases in costs and shifts in treatment settings resulted in more or less appropriate and effective care. The researchers cautioned that disproportionate decreases in per-episode spending for individuals with severe mental health conditions may be a cause for concern.

[See: Huskamp HA. Episodes of mental health and substance abuse treatment under a managed behavioral health care carve-out. *Inquiry* 1999; 36:147-161.] ■

Disease management

AIDS patients need dedicated units

A study by researchers at the University of Pennsylvania in Pittsburgh concludes that AIDS patients experience better outcomes when treated in dedicated AIDS units and magnet hospitals than when treated in general hospital units.

Researchers compared differences in the 30-day mortality rates and care satisfaction rates of AIDS patients in dedicated AIDS units, scattered bed units in hospitals with and without dedicated AIDS units, and in magnet hospitals. In total, researchers analyzed data on 1,205 patients in 40 units in 20 hospitals and on 820 nurses working in those hospitals.

Results include:

• Patients in magnet hospitals had odds of dying that were lower by a factor of 0.40 compared to patients in conventional scattered bed units.

• Patients in dedicated AIDS units and scattered-bed units of hospitals with dedicated AIDS units had lower odds of dying by factors of 0.61 and 0.56 respectively compared to patients in conventional hospitals.

• An additional nurse per patient day reduced odds of dying in 30 days by more than 50%.

• an increase of .25 nurses per patient day lowered the odds of dying in 30 days by 20%.

• Patients whose physicians were not associated with an AIDS specialty service were roughly three times more likely to die in 30 days than those patients whose physicians were associated with an AIDS specialty service.

[See: Aiken LH, Sloane DM, Lake ET, et al. Organization and outcomes of inpatient AIDS care. *Med Care* 1999; 37:760-772.] ▼

Centers lack resources for asthma care

Federally funded community health centers often lack the resources needed to follow current guidelines for optimal asthma care, according to a recent study in the *Journal of the National Medical Association.*

Researchers collected data on community health center clinicians, pharmacy services, and patient characteristics from 35 community health centers in eight southeastern states during a 12-month period. More than 60% of patients treated in those centers had incomes below the poverty level, and nearly 75% were either uninsured or receiving Medicaid.

Current national guidelines for asthma treatment emphasize early use of anti-inflammatory medication, especially steroid inhalers. Underuse of inhaled steroids has been associated with higher asthma hospitalization rates, and overuse of beta-agonist medication has been associated with increased asthma symptoms, morbidity, and even death.

83% provided no peak flow meters

A review of asthma treatment in the 35 community health centers found:

• 82% of centers provided beta-agonist inhalers, but 46% provided no steroid inhalers to patients.

• 83% of centers provided no peak flow meters to asthma patients.

• 65% of centers were unable to provide simple spacers to maximize the benefit of metered inhaler doses.

• Drug samples were the most common resource that centers used to treat low-income patients.

[See: Rust GS, Murray BS, Octaviani H, et al. Asthma care in community health centers: A study by the Southeast Regional Clinician's Network. *J Natl Med Assoc* 1999; 91:398-403.] ▼

Stem-cell transplant benefits blood cancers

The largest study to date comparing stem-cell transplant outcomes to those of bone-marrow transplant found that stem-cell transplants offer clear advantages. The findings offer hope for patients with advanced-stage leukemia and those who have suffered one or more relapse as well as patients with lymphomas that did not respond to treatment, according to a report presented at the 41st Annual American Society of Hematology meeting held recently in New Orleans.

In a three-year, multi-center study, 168 patients with a variety of blood cancers were randomly assigned to receive either bone-marrow or stem-cell transplants. The two-year survival rate among the marrow transplant patients was 45% compared to 70% for the stem-cell patients.

Patients may get 'best of both worlds'

"The results are exciting because most strategies aimed at reducing relapse are associated with higher toxicities, more complications, and higher mortality," says researcher **William Benzinger**, MD, with the Fred Hutchinson Cancer Research Center's Clinical Research Division in Seattle. "This data suggests that stem-cell transplants may offer the best of both worlds: fewer relapses with fewer complications."

The evidence is convincing enough that the Fred Hutchinson Cancer Research Center has switched from bone-marrow transplants to stem-cell transplants for its high-risk patients, says Benzinger. However, he adds that the advantage of stem cells over marrow transplants for low-risk patients remains less clear due to a lack of data.

In addition, other studies in the literature suggest that stem-cell patients have higher rates of chronic graft-vs.-host disease, which may not occur until three to five years after transplant. In a delayed reaction, the donor immune cells attack the patient's skin, liver, eyes, mouth, esophagus, and joints and must be controlled with immune suppression drugs.

"We won't know for another year or two whether chronic graft-vs.-host disease shows up among these patients," notes Benzinger.

[For more information, visit the center's Web site at www.fhcrc.org.] ■

Pediatrics

Parents, children, physicians must talk to improve care

Good communication among physicians, parents, and their children is essential to good pediatric care. A recent consumer survey found that luckily few parents had problems communicating with their primary physician, which is good news for the beleaguered managed care industry.

Researchers field-tested a tool designed to assess the interpersonal care of children based on parental responses. More than 3,000 Washington state employees who were insured through the state employee benefits program were surveyed.

Using a rating scale of zero to 10 where 10 is the highest positive rating, findings include:

- Parents gave their personal doctor's care a rating of 8.37.
- Parents gave the overall quality of care provided to their children a rating of 8.27.
- Parents gave the care provided to their children by specialists a rating of 8.21.
- Parents gave their health plans an overall rating of 7.07.

In addition, 88% of parents reported that it was easy to find a personal physician among the plan's choices, and 82% reported that they were always or usually able to get help when they phoned their doctor.

Parents say seeing specialists is difficult

However, the study findings were not all rosy. Parents reported that access to specialists was more difficult. Among parents whose children needed to see specialists in the past six months, 13.4% reported the child was not able to see a specialist. Another 25% of parents in that group reported it was not easy to get a specialty referral when needed. In addition, performance in the more administrative aspects of health care, such as waiting times, also rated lower but did not affect overall experience ratings as much as physician relationship issues, report researchers.

[See: Homer CJ, Fowler FJ, Gallagher PM, et al. The Consumer Assessment of Health Plan Study survey of children's health care. *Jt Comm J Qual Improv* 1999; 25: 369-377.] ■

Managed care/Primary care

Report cards don't reflect patient variance

Managed care report cards may unfairly penalize providers for patient variances beyond their control, according to a recent study reported in the *American Journal of Medicine*.

Many managed care organizations impose financial penalties on providers who use excessive medical services in treating their patients. However, because these report cards often fail to take into account differences in the severity of illness, such report cards may be misleading.

For example, a hospital that uses more blood transfusions for patients undergoing hip fracture surgery may have a higher proportion of severely anemic patients than another hospital that uses fewer transfusions for seemingly similar patients, researchers found.

Researchers conducted a retrospective study of 8,776 charts for hip fracture patients 60 and older who underwent surgical hip repair between 1982 and 1993 at one of 19 study hospitals located in four states. They examined transfusion rates among hospitals, patient characteristics associated with transfusion, and whether those characteristics varied among hospitals. Results include:

• Postoperative transfusion rates varied from 31% to 54% of hip fracture patients among the 19 study hospitals.

• Without adjusting for differences in patient severity of illness, four of nine teaching hospitals and two of nine nonteaching hospitals had significantly higher transfusion rates than the reference hospital, while one teaching hospital had a lower rate than the reference hospital.

• After adjusting for patient anemia and other clinical variables, only one of nine teaching hospitals had rates higher than the reference hospital instead of the original four. However, four of nine nonteaching hospitals rather than the original two had higher rates than the reference hospital. In addition, four teaching hospitals and one nonteaching hospital actually had lower transfusion rates than the reference hospital.

[See: Poses RM, Berlin JA, Noveck H, et al. How you look determines what you find: Severity of illness and variation in blood transfusion for hip fracture. *Am J Med* 1998; 105:198-206.] ▼

Computer use reduces use of vancomycin

The broad-spectrum antibiotic vancomycin is effective against many types of bacteria, but overuse has resulted in vancomycin-resistant bacteria as a major health risk throughout the nation. There is no established antimicrobial therapy for vancomycin-resistant enterococci. The key to reducing physician use of this antibiotic may be clear computerized guidelines for vancomycin use, concludes a recent study in the *Journal of the American Medical Informatics Association*.

Researchers at Brigham and Women's Hospital in Boston tested a computerized order-entry system at the hospital to determine whether it would reduce vancomycin ordering by staff physicians. The system displayed guidelines for appropriate use of intravenous vancomycin each time a physician keyed in an order for the drug. Researchers randomly assigned physicians to the vancomycin guidelines group on the control group and compared the use of the drug in the two groups.

Intervention results in lower costs

Results include:

• Intervention physicians reduced their overall use of vancomycin by 30% compared to the control group.

• Intervention physicians wrote 32% fewer vancomycin orders and had 28% fewer patients for whom they either initiated or renewed an order for vancomycin.

• Intervention physicians prescribed a 36% shorter duration (26.5 days compared to 41.2 days) of vancomycin therapy than did the control physicians.

• Intervention physicians chose less expensive antibiotics in many instances, such as a first-generation cephalosporin such as cefazolin.

At a daily cost of $12 for vancomycin and $9 for cefazolin, if cefazolin were substituted for vancomycin for all cases in the study in which physicians chose not to order vancomycin, the projected savings for Brigham and Women's Hospital would be about $22,500 per year, note the researchers.

[See: Shojania KG, Yokoe D, Platt R, et al. Reducing vancomycin use utilizing a computer guideline. *J Am Med Inform Assoc* 1998; 5:554-562.] ■

(Continued from page 25)

inadequately treated depression to take their own lives.

"We realize that this was not an objective scientific study. Individuals had to have Internet access, had to know about us, had to like to respond to surveys in order to participate," Lewis adds. "However, it gives us some serious food for thought. More important, the findings support those of other studies in the literature and should serve to raise the consciousness of the public and primary care physicians about the serious nature of depressive disorders." **(For additional studies on the prevalence and treatment of depression in the United States, see box, below right.)**

One size does not fit all

The survey also asked respondents currently taking antidepressants to rate their satisfaction with their medications. Findings include:

- 80% of respondents reported experiencing side effects that affected their willingness to continue treatment.
- 17% reported discontinuing medication due to side effects.
- 8% reported missing at least one dose of medication each week due to side effects.
- 28% reported no change in their condition since being treated for depression.
- 60% reported experiencing drowsiness from their antidepressant.
- 42% reported experiencing headaches from their antidepressant.
- 41% reported experiencing increased agitation from their antidepressant.
- 35% reported experiencing sleeplessness from their antidepressant.
- 33% reported experiencing impotence or other sexual dysfunction from their antidepressant.

"These results confirm our clinical suspicions that depression is difficult to treat and that the treatments we have are not totally effective," says **David Dunner**, MD, professor of departmental psychiatry and behavioral sciences and director of the Center for Anxiety and Depression at the University of Washington in Seattle. "No matter what clinicians may say about the scientific or representative nature of this on-line study, it still reflects the clinical status of individuals with serious mood disorders in this country. Many of them will get better, but nearly as many won't improve with currently available treatments." **(A table of current medications for depression and their most common side effects appears on p. 26.)**

"No one antidepressant works the same for everyone with depression," notes **Dennis Charney**, MD, deputy chairman for academic and scientific affairs at Yale University School of Medicine in Princeton, NJ. "Each medication affects individuals differently. Physicians and patients should work together to explore all of the classes of antidepressant medication and determine the best treatment for their situation."

Yet another issue that interferes with treatment is health care funding, says Dunner. "Insurance companies sometimes restrict treatment or make treatment difficult for patients with serious mental disorders. In addition, they often restrict the use of medications in their formularies."

Patients on antidepressants must realize they do have many side effects, Lewis says. "These drugs all work, but they don't all work in the same way or to the same degree for everyone. It's important that case managers urge individuals being treated for depression to keep trying until they find the right treatment that helps alleviate symptoms and gives the fewest side effects. Serious depression can't be cured by a pill. It's a chronic illness." ■

More reading on depression

✔ Conti DJ, Burton WN. Economic impact of depression in a workplace. *J Occup Environ Med* 1994; 36:983-988.

✔ Finkelstein SN, Berndt ER, Greenberg PE. Economics of Depression: A Summary and Review. Prepared for the National Depressive and Manic-Depressive Association-sponsored Consensus Conference on the Undertreatment of Depression. Chicago; Jan. 17-18, 1996.

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✔ Hirschfeld RM, Keller MB, Panico S, et al. The National Depressive and Manic-Depressive Association Consensus Statement on the Undertreatment of Depression. *JAMA* 1997; 277:333-340.

✔ McFarland BH. Cost effectiveness considerations for managed care systems: Treating depression in primary care. *Am J Med* 1994; 97(Suppl 6A):47S-57S.

Assist devices offer heart patients independence

Implantable pumps improve quality of life

Many patients with late-stage heart disease linger for months in intensive care units waiting for a donor heart to become available. With average costs nationwide of more than $2,000 a day for an ICU bed, excluding additional costs for such items as medications and laboratory tests, the need for alternative treatments is obvious.

"A patient awaiting a heart transplant can easily rack up costs of $5,000 a day for as long as six months. Not only is it expensive, but there is a great strain on the patient and the family due to the patient's need to remain in the hospital indefinitely," notes **Kathy E. Magliato**, MD, a cardiothoracic surgeon at Cedars-Sinai Hospital in Los Angeles. Magliato is one of a growing number of cardiothoracic surgeons nationwide who routinely implant ventricular-assist devices (VADs) in patients awaiting heart transplants.

"The assist devices are expensive, but they offer the patient a degree of independence. Depending on the type of device and the health of the patient, the patient can either be stepped down from the ICU to other units of the hospital or discharged home and even returned to the workplace while awaiting transplant," she says.

Several companies now have Food and Drug Administration-approved VADs on the market. **(See chart, p. 34, for information on three companies that market VADs.)** The devices can cost as much as $70,000, which, although staggering, still saves money in the long run due to decreased ICU costs and improved quality of life.

The high cost of the devices causes some payers to question their cost/benefit ratio. Most payers are aware of the FDA's approval of the devices and routinely reimburse for them. However, there are several reimbursement issues to be resolved. "Since 1998, Medicare has reimbursed for the device, but there are still reimbursement barriers. There is no billing and coding methodology in place to deal with outpatient charges associated with the system — supplies and equipment," says **Virginia Curcio**, RN, MBA, reimbursement manager for Thermo Cardiosystems in Woburn, MA.

"I had two payers just recently who did not offer LVAS [left ventricular assist device] coverage as part of their reimbursement plan," she notes. "One company, even in light of the FDA approvals, still considered the device investigational. When case managers requested coverage for LVAS implantation, it was denied. Then they appealed to the health plan medical director and received coverage. In many instances, these devices are considered on an individual basis. I suggest case managers always appeal denials."

Many VAD manufacturers hold seminars on reimbursement, adds Magliato. "In general, these devices are well-reimbursed. Facilities considering use of VADs would probably benefit from asking the various manufacturers in for a seminar on reimbursement."

Most late-stage heart patients awaiting transplants are possible candidates for VAD implantation. However, several conditions make some

(Continued on page 34)

A nation's most costly killer

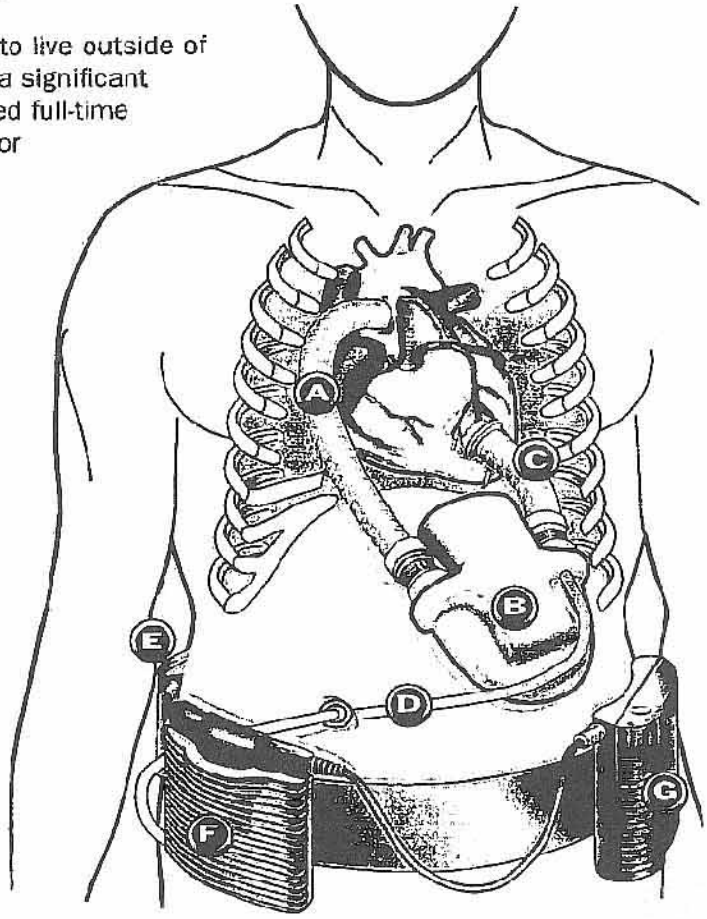
Ventricular-assist devices are relatively new and very welcome additions to the arsenal in the war against cardiovascular disease in the United States. Just how necessary continued advances in the treatment of heart disease are comes into frighteningly clear focus following a quick review of these facts from the American Heart Association in Dallas:

- ❤ Cardiovascular disease claimed the lives of nearly 1 million Americans in 1995.
- ❤ More than 58 million Americans have one or more forms of cardiovascular disease.
- ❤ Heart failure is the leading cause of hospitalization in the United States. More than $6.7 billion is spent each year on hospital stays resulting from heart failure.
- ❤ Between 40,000 and 70,000 Americans each year under age 65 with end-stage cardiovascular disease could benefit from a heart transplant.
- ❤ There were 2,345 heart transplants performed in the United States in 1996 for more than 40,000 heart transplant candidates. That means for every patient who received a new heart, 17 went without.
- ❤ The average wait for a donor heart is six months. Each year, many patients die while waiting for a donor heart. ■

FDA Approves Baxter Heart-Assist Device

The U.S. Food and Drug Administration has approved an implantable electric pump designed to supplement the heart's pumping function for patients awaiting heart transplantation. Baxter Healthcare Corporation's Novacor LVAS (left ventricular assist system) is surgically implanted in a patient's abdomen and connected to the heart's left ventricle. The system is operated and monitored by an electronic controller and powered by primary and secondary battery packs, which are worn outside of the patient's body and connected to the system through an electric lead wire.

The FDA approval also allows patients to live outside of the hospital while awaiting transplantation, a significant benefit over earlier technologies that required full-time hospitalization. In contrast, Baxter's Novacor device has allowed hundreds of patients to return home, where they often resume normal work and leisure activities while awaiting availability of donor hearts.

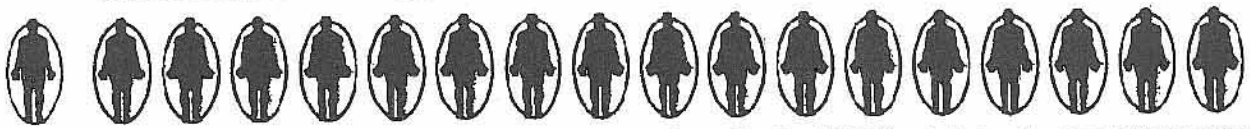


- A Outflow Conduit
- B Pump/Drive Unit
- C Inflow Conduit
- D Percutaneous Lead
- E Reserve Power Pack
- F Electronic Controller
- G Primary Power Pack

Source: Baxter Healthcare Corporation

Demand for Hearts Vastly Greater than Supply

In 1996, 2,345 heart transplants were performed in the U.S., but about 40,000 patients were in need of one. So for every patient who received a new heart, roughly 17 went without.



Sources: United Network For Organ Sharing (UNOS) and Baxter Healthcare Corporation

Overview of Three Ventricular Assist Devices

Thoratec, Pleasanton, CA

1 **FDA approval:** Thoratec received approval from the Washington, DC-based Food and Drug Administration (FDA) for its ventricular assist device (VAD) system to be used as a postcardiotomy recovery system in May 1998. The company previously received approval for the device's use as a bridge to transplant.

Number of patients: As of June 1999, the Thoratec VAD had been implanted in more than 1,000 patients worldwide.

Features and operation: The Thoratec VAD is the only currently available system that offers total circulatory support and can be used as a left, right, or biventricular support device. The VAD is driven by a lightweight, portable driver that allows patients to leave the hospital while awaiting a heart transplant. The device is made of Thoralon, a patented, thromboresistant and biocompatible material, which greatly reduces the risk of blood clots.

Web: www.thoratec.com ▼

Thermo Cardiosystems, Woburn, MA

2 **FDA approval:** In 1994, Thermo Cardiosystems received FDA approval for its air-driven Heart Mate left ventricular assist device (LVAS). The company received FDA approval for its electric Heart Mate LVAS system in 1998. Both of those systems are approved as a bridge to transplant.

Number of patients: To date, more than 1,500 patients have been supported by a Heart Mate system worldwide.

Features and operation: The Thermo Cardiosystems devices are designed to assist the left ventricle, or main pumping chamber of the natural heart, only. The central component of the LVAS, the implantable blood pump, is placed just below the diaphragm in the abdomen. It is attached between the natural heart and the aorta, leaving natural circulation in place while providing all of the energy necessary to propel blood through the body.

The air-driven pump weighs just over 1 lb. The electric pump weighs about 2½ lbs. Both devices are roughly four inches in diameter and less than two inches in depth. Both the air-driven and the electric devices use a proprietary Heart Mate blood pump technology, which includes a uniquely textured surface designed to reduce the risk of stroke.

The air-driven model is powered by a lightweight external console, about the size of a VCR, which patients can move about on a wheeled cart. The electric Heart Mate has a beeper-size control pack and is powered by lightweight batteries that can be worn in a shoulder holster or waist pack. Patients with the electric model typically return to their normal routines, including their jobs.

Web: www.thermocardiosystems.com ▼

Baxter Healthcare, Cardiovascular Group, Oakland, CA

3 **FDA approval:** Baxter received FDA approval for its Novacor Left Ventricular Assist System as a bridge to transplant device in September 1998.

Number of patients: Nearly 900 patients worldwide have received a Novacor LVAS. Two have been supported for more than three years by their original devices.

Features and operation: The Novacor LVAS is an electro-mechanical heart pump that is implanted in the abdomen and connected to the heart's left ventricle. The system is operated by an external, portable electronic controller and is powered by battery packs, which a patient typically wears around the waist or in a shoulder vest or backpack.

The controller and batteries are connected to the pump by a percutaneous lead through the skin. The system is self-regulating and responds instantly to changes in heartbeat and circulatory demands. Many recipients can be discharged from the hospital to resume normal activities and return to work.

Web: www.baxter.com/novacor ■

patients less suitable, Magliato says. "These are relative and not absolute contraindications which might make some heart patients an exception."

Those conditions include:

- bleeding disorders;
- severe liver or kidney dysfunction;
- existence of a mechanical valve.

For appropriate patients, VADs greatly improve survival odds for patients with late-stage heart disease, notes **James W. Long**, MD, PhD, cardiothoracic surgeon at LDS Hospital, assistant clinical professor of cardiothoracic surgery at the University of Utah in Salt Lake City and director of the Utah Artificial Heart Program. "One of the greatest benefits of these devices is that they improve survivorship for

late-stage heart patients. The use of the device changes the mortality rate from 90% mortality for patients awaiting transplant to a 85% survival rate to transplant with an implanted VAD."

In clinical trials of its Novacor LVAS, Baxter Healthcare in Oakland, CA, found the overall survival rate to transplant was 78% for patients receiving a Novacor LVAS, compared with a 35% survival rate to transplant for patients not receiving a LVAS, says **Linda Strauss**, vice president and director of communications for the Novacor division of the Baxter Healthcare Cardiovascular Group. That survival rate has improved since FDA approval allowed surgeons to implant the device in healthier patients. Survival rate to transplant is now roughly 85% for all of the VAD systems currently available.

Due to the similarity in the success rates, surgeons say selecting the correct VAD for an individual patient depends upon patient size, desire for independence, and whether the heart failure is left-sided, right-sided, or both. "The Thoratec system can be used in the widest range of patients because it can be used for the right side, the left side, or both sides of the heart," Strauss says. "It also fits a wider range of patients and has even been approved for use in small children."

However, a very large patient may need a larger pump, she notes. "If I have a really big man with left-sided heart failure, I'm more likely to chose the Novacor or Heart Mate system."

The greatest single benefit of VADs is their ability to improve a patient's quality of life, agree Magliato and Long. That is even more true as VADs become increasingly reliable and are implanted in healthier patients.

"We're becoming more confident in the reliability of these systems," says Long. "Up until the recent past, we insisted every patient with an implant have a constant 24-hour companion who could contact the center and institute emergency response measures. We never allowed these patients to drive and insisted they remain within a very short distance of the hospital."

Long says he's now starting to push the envelope. LDS Hospital has begun evaluating patients for their ability to enjoy a greater degree of independence. "We now have patients who are driving themselves long distances and flying as far away as San Diego, California, and Washington, DC."

To measure a patient's ability for greater independence, LDS Hospital evaluates the following:

• **Patient has sufficient cardio-reserves to carry out emergency measures if the pump fails.** "We

Assistive device resources

❤ Cantanese KA, Goldstein DJ, Williams DL, et al. Outpatient left ventricular assist device support: A new destination rather than a bridge. *Ann Thorac Surg* 1996; 62:646-652.

❤ DeRose JJ, Argenziano M, Sun BC, et al. Implantable left ventricular assist devices: An evolving long-term cardiac replacement therapy. *Ann Surg* 1997; 226: 461-468.

❤ Goldstein DJ, Oz MC, Rose EA. Medical progress: Implantable left ventricular assist devices. *New Eng J Med* 1998; 339:1522-1533

❤ McCarthy PM, Sabik JF. Implantable circulatory support devices as a bridge to heart transplantation. *Semin Thorac Cardiovasc Surg* 1994: 6:174-180.

❤ Oz MC, Goldstein DJ, Pepnio P, et al. Screening scale predicts patients successfully receiving long-term implantable left ventricular assist devices. *Circulation* 1995; 92: Suppl II:II-169-II-173. ■

Case Management Advisor™ (ISSN# 1053-5500), including **Resource Bank**™ and **Reports From the Field**™, is published monthly by American Health Consultants®, 3525 Piedmont Road, NE, Building Six, Suite 400, Atlanta, GA 30305. Telephone: (404) 262-7436. Periodical postage paid at Atlanta, GA 30304. POSTMASTER: Send address changes to **Case Management Advisor**™, P.O. Box 740059, Atlanta, GA 30374.

Subscriber Information

Customer Service: (800) 688-2421 or fax (800) 284-3291, (customerservice@ahcpub.com). Hours of operation: 8:30 a.m. to 6 p.m. Monday-Thursday; 8:30 a.m.-4:30 p.m. Friday.

Subscription rates: U.S.A., one year (12 issues), $319. Approximately 18 nursing contact hours, $369; Outside U.S.A., add $30 per year, total prepaid in U.S. funds. One to nine additional copies, $191 per year; 10 to 20 additional copies, $128 per year. Call for more details. Missing issues will be fulfilled by customer service free of charge when contacted within 1 month of the missing issue date. **Back issues**, when available, are $53 each. (GST registration number R128870672.)

This continuing education offering is sponsored by American Health Consultants®, which is accredited as a provider (CEP10864) of continuing education in nursing by the American Nurses Credentialing Center's Commission on Accreditation.

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run three-minute tests," explains Long. "We watch the patient to see how they react during that three-minute period. Do they stay in control of their faculties? Do they remember what to do?"

• **Patient has an adequate emergency response system in the community.** "If the patient lives in a smaller community, we train paramedics and emergency room physicians on the technology and explain the patient's specific needs. We also set up a communication system so that we are notified immediately about any complications."

Although the survival rate to transplant is high in centers nationwide, Long and Magliato say there are several factors case managers must consider when selecting a surgeon and facility for VAD implantation. Those include:

• **Center handles a large volume of VAD implants.** "Look for a center that implants at least one of these devices every two months — six a year, minimum. You need volume to gain the necessary experience that leads to better survival rates," says Long, adding that case managers should look for a facility with a survival rate to transplant of no less than 75%.

• **Support staff are familiar with the implants.** "You need not only volume, but a strong support staff of clinicians — not just surgeons. You have to have nurses, anesthesiologists, pulmonologists, cardiologists, and engineers who are all familiar and comfortable with these systems," he says.

Magliato says trained nursing staff are vital to a facility's success with VADs. "Many nurses are intimidated by these patients. The patients have a metal device coming out of their body that's keeping them alive. People don't want to touch the device. They're afraid to touch the patient. The nursing staff must be trained that the patients not only can but should be moved. Nurses must be reassured that patients can be taken off the ventilator and walked around."

VAD implant patients require psychological support as well as medical and technical support, she says. "These patients are scared . . . You must have a special passion to work with these patients give them the support they need."

Most VAD implant patients suffer few complications. However, centers nationwide are still struggling to reduce instances of infection associated with VADs, says Long. "We believe that the instances of infection can be reduced with meticulous care of the percutaneous leads in the outpatient setting," he says, adding that patients and their families must receive training in proper care of percutaneous leads. ■

CE objectives

After reading this issue of *Case Management Advisor,* continuing education participants will be able to:

1. Describe one model for making better hiring decisions.
2. List selection criteria for an appropriate provider for implantation of a heart-assist device.
3. Describe how acupuncture provides long-term pain relief.
4. List common side effects of most frequently prescribed antidepressants. ■

Resource Bank™

A monthly compilation of news you can use from *Case Management Advisor*

On-line news services provide mental health news

Manisses Communications Group in Providence, RI, recently launched an on-line news service, BehavNewsNet+ (BNN+), a weekly service that provides up-to-date, original news complied from Manisses' nine behavioral health newsletters, as well as newly researched information.

BNN+ provides updates on prescription drugs, behavioral health research, vital news from the mental health and addiction fields, a comprehensive industry events calendar, request-for-proposal announcements, and grant opportunities.

For a free four-week trial subscription, go to www.manisses.com/bnntrial/. For more information on subscription rates and how to subscribe, contact the customer service department at (800) 333-7771. ▼

Health care executives share business smarts

Two health care executives have taken classic examples from their careers and turned them into a serious but fun primer on business management. AMACON Books in Saranac Lake, NY, recently released *Goldilocks on Management*, 27 revisionist fairy tales borrowing from such classic tales as "The Emperor's New Clothes" and "The Three Little Pigs."

"The 'Little Red Riding Hood' chapter is based on an experience in health maintenance organization [HMO] contracting where I devoured a new and inexperienced MBA in a negotiating session," says **Gloria Gilbert Mayer**, EdD, a former executive of a large California HMO and current president of the Institute for Healthcare Advancement (IHA) in Whittier, CA, a nonprofit educational organization. "I felt like the wolf, but was happy to get such a great contract for the medical group."

"We wrote this book to inform managers in any industry, but especially health care, about management theory as interpreted through culturally recognizable images," adds **Thomas Mayer**, MD, MBA, another former executive with a large California HMO, who now serves as executive director of managed care education for IHA. "Utilizing the fairy-tale format, we all can remember the principles easily and use them to describe our own organizations."

Tales included in this book are: sales and negotiation strategies from "Goldilocks and the Three Bears," contingency planning from "The Three Little Pigs," getting the most out of consultants from "The Pied Piper," effective rumor control techniques from "Chicken Little," and outside-the-box thinking from "Jack and the Beanstalk."

Each tale in the book is followed by a business lesson, interpretations that show applications of each lesson, and a real-world business tale that parallels the story, notes Mayer.

The book sells for $21.95 plus shipping and handling. Request ISBN #0814404812. To order, telephone AMACON Books at (800) 714-6395. For more on educational resources available from IHA, visit the company's Web site at www.iha4health.org. ▼

Agency offers clinical practice guidelines, patient materials

The Agency for Health Care Policy and Research in Silver Spring, MD, has a wide range of clinical practice guidelines and patient guides available for sale from the Government Printing Office in Washington, DC. To order any of the publications listed below, contact the Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954. Telephone: (202) 512-1800, or order on-line at www.ahcpr.gov.

• ***Acute Pain Management: Operative or Medical Procedures and Trauma*** costs $6. Ask for #SN 017-0022-01182-4. Also available in this series:

— ***Quick Reference Guide for Clinicians (Adult)*** costs $56 for a package of 50. Ask for #SN 017-022-01180-8.

— ***Quick Reference Guide for Clinicians (Pediatric)*** costs $43 for a package of 50. Ask for #SN 017-022-01183-2.

• ***Pressure Ulcers in Adults*: *Prediction and Prevention*** costs $3.75. Ask for #SN 017-026-00108-5. Also available in this series:

— ***Quick Reference Guide for Clinicians*** costs $28 for a package of 50. Ask for $SN017-026-00110-7.

— ***Patient's Guide*** costs $19 for a package of $25. Ask for #SN017-026-00109-3.

• ***Depression in Primary Care: Clinical Practice Guideline Vol. 1, Detection and Diagnosis*** costs $7. Also available in this series:

— ***Clinical Practice Guideline Vol. 2, Treatment of Major Depression*** costs $7.50. Ask for #SN 017-022-01198-1.

— ***Quick Reference Guide for Clinicians*** costs $49 for a package of 50. Ask for #SN017-022-01199-9.

— ***Patient's Guide*** costs $55 for a package of 50. Ask for #SN 017-022-01200-6. ▼

Company offers guide to integrative medicine

Can St. John's Wort and Prozac be taken at the same time? How does vitamin C interact with chemotherapeutic agents? Are calcium supplements safe while taking digoxin? What effect does licorice root have on hypertension? Is *Echinacea* safe for patients with autoimmune conditions?

If you can't answer these questions, you may want to check out Interactions, an on-line and CD-based professional reference guide to interactions between prescription and over-the-counter medications, herbs, and supplements from Beaverton, OR-based Integrative Medical Arts. The guide gives medical professionals information that allows them to more safely prescribe, while considering all potential interactions between substances a patient is taking.

Interactions, the IBIS Guide to Drug-Herb and Drug-Nutrient Interactions, is available on CD and also as a section of the IBIS Web site at www.IBISmedical.com/Interactions.html. The guide includes up-to-date information based on scientific literature in concise and practical terms. It allows professionals to quickly identify drugs by generic name, trade name, or drug class and identify herbs by their common or botanical names, all with easily accessible reference tables. It also includes a tracking system for recording and reporting interactions and adverse reactions involving herbs and supplements. In addition, the site provides easy-to-print handouts for patient education.

To operate Interactions, you must have Windows 95/98/NT or MacOS 7.1 or higher, 16 MB RAM, and 40 MB available on your hard drive. Also, 80 MB of free hard drive space is required for installation. For more details, visit the company's Web site at www.IntegrativeMedicalArts.com or call (503) 526-1972. ■

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If you have a new resource, conference, or seminar of interest to other case managers, send items for publication to: Lauren Hoffmann, Editor, *Case Management Advisor,* P.O. Box 740056, Atlanta, GA 30374. Telephone: (770) 955-9252. Information on conferences and seminars must be received at least 12 weeks before the event to meet publication deadlines. ■