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Aggressive treatment for hypertension yields results

Consider combination drug therapy, tailored treatment strategies

Last month in *CHF Disease Management*, you read the disturbing news that the dramatic improvements in hypertension management seen in the '70s and '80s have slowed and even decreased to the point that currently only about 25% of hypertensive patients have their blood pressure adequately controlled.

Experts largely blame hypertension for the increase in CHF in recent years and expect the problem will only worsen as improving life expectancy increases the number of elderly people in the United States.

This month, *CHF Disease Management* offers you some updated practical strategies for improving hypertension management, including fresh ideas for tailoring treatment to specific patient types, managing drug therapy, helping patients modify their lifestyles, and measuring the quality of care.

If these issues plague your practice, you're not alone. In April, a national alliance was formed by leading medical, patient, and government organizations to reverse the growing trend of uncontrolled high blood pressure. The group, From Awareness to Action: The National Alliance to Reach Blood Pressure Goals, is a coalition of about 25 organizations. Members include the National

KEY POINTS

- Providers who want to improve blood pressure control should consider simple actions such as calling patients who miss appointments, asking patients why they're having trouble complying with treatment, and informing patients of specific blood pressure target goals.
- Low-dose combination drug therapy frequently gives physicians a better shot at reducing blood pressure and makes compliance easier for patients.
- Internet resources can provide another avenue to encourage patients to be more involved in their own care.

Association of Mayors, the National Center for Health Statistics, and the National Consumers League as well as the American Heart Association and the American College of Cardiology.

The alliance plans to sponsor a series of high-profile intervention programs, such as blood pressure screenings and open forums, around the country to promote meaningful dialogue between providers and patients, says **Martha Hill**, RN, PhD, chair of the alliance's advisory council and director of The Center for Nursing Research at Johns Hopkins University School of Nursing in Baltimore.

"A large percentage of the public does know that high blood pressure is serious, but knowledge is inadequate in terms of getting people to get their blood pressure checked, and if it's high, getting it under control," she says.

Hill says negative experiences with the health care system — long waits for appointments, medications with side effects — keep many patients from getting their blood pressure under control. That's why providers need to spend time learning and respecting the beliefs and attitudes of patients so they can find affordable, well-tolerated ways to lower blood pressure. Providers can take actions as simple as mailing out appointment reminders and calling people who have missed appointments to more complicated actions such as installing computer programs to track blood pressures.

Set goals

One of the most important things that many physicians neglect to do for their hypertensive patients is set a blood pressure goal and inform the patient of that goal, Hill says. It's hard to meet a goal that hasn't been set and for which there is no feedback. "You have to be aware of the fact that it's the patient's daily life that will make the ultimate difference. The day-to-day work is the patient's, so you have to involve them in the decision making."

One complicating factor in treating hypertension is that the same strategy won't work for every patient. Researchers at the University of Maryland have identified four distinct types of hypertensive patients based on lifestyle choices and the ability to adhere to medication protocols, and they say that tailoring treatment to each group may improve your chances of success.

Matthew Weir, MD, professor of medicine in the division of nephrology at the University of Maryland in Baltimore, and his colleagues interviewed 727 hypertensive patients by telephone about their beliefs and behaviors surrounding the management of their disease. They weighted the composition of the cohort to match the age and sex distribution of hypertensive patients in the 1992 National Health Interview Survey. The researchers found four distinct groups that need different management strategies:[1]

- **Group A.** Patients use an effective mix of medication and lifestyle regimens to control blood pressure. These patients need positive reinforcement, such as monthly telephone contact by nurses and encouragement to gradually adopt more aggressive healthy lifestyle goals.
- **Group B.** Patients are most likely to depend on medication and have high adherence rates, but they also have high rates of smoking (29%) and alcohol use (an average of 104 times per year) and are less likely to exercise regularly. This group needs more aggressive medical management and needs to take small steps toward a more active lifestyle.
- **Group C.** Patients are most likely to forget to take medication, are likely to be obese, and find it most difficult to comply with lifestyle changes (except for very low rates of smoking and alcohol use). They need a simplified medication schedule with care taken to minimize side effects. They also need encouragement to incorporate easy physical activity such as taking the stairs or taking a 10-minute walk during lunch, into their daily life.
- **Group D.** Patients are least likely to take medication, most likely to change or stop medication without consulting their physician (20%), most likely to smoke (40%), and least likely to control diet (29%). This group needs strategies to make it easier for them to take their medications and increased frequency of patient contact through a case manager.

Weir and his colleagues are planning another trial to test the hypothesis that tailoring treatment in those ways would reduce the incidence of high blood pressure. They suggest caregivers need a hypertension lifestyle assessment instrument that would identify the subgroup into which an individual falls, as well as clinical management protocols that are tailored for members of each group.

"Congestive heart failure has increased in the last five years partly because hypertension is not well-controlled," Weir says. "Anything we can do to improve hypertension would improve heart failure as well. We need to be more aggressive to

get intensified control of hypertension."

One way providers can become more aggressive is through the use of combination drug therapy, says **Joel Neutel**, MD, chief of clinical pharmacology and hypertension at the Veterans Affairs Medical Center in Long Beach, CA, and assistant clinical professor of medicine at the University of California, Irvine.

Because hypertension is a multifaceted disease, it is extremely difficult to get to goal blood pressure using only one drug, Neutel says. He recommends that physicians consider using low-dose combination therapy earlier in the treatment process.

Combining two drugs in one tablet is more likely to reduce blood pressure and makes compliance easier for patients. "There's been somewhat of a reluctance to using combination therapy, but now with the new low-dose products that are available, you are much more likely to get control," he says. "Some are concerned that there might be more side effects, but when you compare studies in which patients are started on low-dose combination therapy to those on monotherapy, there are really no differences in the side-effect profile. In almost all patients, it is possible to find a treatment regimen that would not have side effects. You have to do that if you want your patients to comply."

The step-care approach has been ingrained in doctors as the right approach to treating hypertension, and that's not necessarily a bad thing as long as blood pressure is controlled, Neutel says. "But by virtue of the fact that in 75% of patients we're not getting to control, the system is somehow breaking down. We have to be more aggressive with combination therapy earlier on in the treatment of hypertension, which is something that is not taught at medical school. Physicians have to constantly change their approach."

Modifying lifestyles

Physicians should try to spend as much time as possible with patients to educate them on the importance of lifestyle modification, but it's important not to waste too much time before beginning drug therapy. With some patients, preaching lifestyle change is a fruitless exercise, and damage is being done while they struggle to cut salt from their diet or lose weight, Neutel says.

"The decision needs to be made fairly early on as to whether it's worth pursuing nonpharmacological treatment or whether it's in the best interest of the patient to start drug treatment," he says. "The physician can always stop the drugs if some dramatic improvement happens. The longer it takes physicians to get to goal, the more likely they are to have some obstacle that results in acceptance of inadequate control."

Some physicians are turning to the Internet for ways to help patients learn to manage their blood pressure. One resource is a Web site that allows patients to assess their risk for hypertension, track their vital signs on a graph that can be sent to the physician, and access tips on lifestyle changes and the latest published research in the field. (www.lifeclinic.com)

Patients can type in their own blood pressure levels as well as pulse, weight, and cholesterol, and information pops up showing normal levels and what action should be taken if the patient falls outside the norm. The site also offers a place to keep personal and family health records, a reminder service for taking medications and making appointments, and a locator service for blood pressure kiosks around the country.

"This kind of site helps physicians because it provides basic information to patients that they may not have time to cover in an appointment," says **Michael Ruddy**, MD, FACP, associate professor of medicine and chief of the section of hypertension in the division of nephrology at the Robert Wood Johnson Medical School in New Brunswick, NJ. Ruddy serves on the clinical advisory board for Lifeclinic.com. "This helps patients have an active role in managing their high blood pressure, and that's the only way it will ever get under control."

The onus for improving blood pressure doesn't fall solely on the patient. Physicians must be more aggressive in their care, says **Pablo LaPuerta**, MD, clinical assistant professor at the Robert Wood Johnson Medical School and director of outcomes research at the Bristol-Myers Squibb Pharmaceutical Research Institute in Princeton, NJ.

LaPuerta was one of the authors of a study published recently in the *Journal of the American College of Cardiology* that outlined a set of indicators for measuring process quality in hypertension.[2] The indicators, based on national guidelines, include screening patients yearly for blood pressure, evaluating newly diagnosed patients for kidney function and cholesterol, getting patients started on drug therapy, and stepping up therapy to get control. When the indicators were tested on about 700 hypertensive women, deficiencies were found in every area.

"One of the most notable things we found was

that when patients persisted with uncontrolled blood pressure of more than 160/90 mm Hg for six months or more, 50% of the time physicians didn't change their treatment," LaPuerta says.

Patients in the study who had blood pressure control passed more indicators, showing that physicians who are more aggressive do achieve better results. "A lot of physicians may think that a lot of the problems with blood pressure are outside their control, such as patient noncompliance," LaPuerta says. "But this study suggests physicians can do something to improve control, like stepping up care when the blood pressure remains elevated. They may need to add another medication or go to a full dose of the existing medication."

(To learn more about From Awareness to Action: The National Alliance to Reach Blood Pressure Goals, go to: www.fromatoa.org.)

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Transcendental meditation for treating hypertension

Patients see lower blood pressures, less stress

What if you could offer your hypertensive patients a treatment strategy that is basically free, has no side effects, doesn't require a prescription, and has been scientifically proven to lower blood pressure and provide a myriad other health benefits?

Some physicians are doing just that by encouraging patients to practice transcendental meditation (TM), a mental stress reduction technique that produces a state of restful alertness that appears to trigger self-repair mechanisms in the body.

TM has been shown to lower blood pressure (10 to 12 points in systolic blood pressure and six to eight points in diastolic pressure) as effectively as antihypertensive drugs,[1] reduce stress[2] and myocardial ischemia,[3] and lower hospitalization and mortality[4] rates from heart disease in more than 500 studies at 210 universities around the world.

A study published in the March issue of *Stroke* (2000; 31:568-573) showed that stress reduction using TM is associated with a reduction in carotid atherosclerosis. A team of researchers led by **Amparo Castillo-Richmond**, MD, assistant professor at the Maharishi University of Management (MUM) College of Maharishi Vedic Medicine in Fairfield, IA, studied 138 hypertensive African-American adults who were randomly assigned to a TM program or a cardiovascular education program.

After six to nine months, the mean carotid intima-media thickness declined by 0.098 mm in the TM group — a reduction similar to that found in drug treatment — and increased 0.054 in the education group. The researchers estimate that the decline in the TM group indicates an 11% reduction in the risk of acute myocardial infarction and up to a 15% reduction in the risk of stroke.

"TM doesn't interfere with pharmacological treatment but improves the results of that treatment, and it improves the quality of life for patients," Castillo-Richmond says. "In the long run, it saves everybody money because there are less complications and less need for medical visits for all diseases, including cardiovascular."

Castillo-Richmond says TM, introduced to the West 40 years ago by Indian spiritual teacher and MUM founder Maharishi Mahesh Yogi and now practiced by 5 million people worldwide, is a settled state in which thought disappears. TM practitioners refer to this as a fourth state of consciousness beyond waking, sleeping, and dreaming. In this absence of thought, the physiology is at its most powerful rest, she says.

TM has been shown to lower the heart rate and decrease oxygen consumption even more than during sleep. The technique produces many signs of deep relaxation. Those signs include reduced muscle and red blood cell metabolism, more stable nervous system functioning, and reduced levels of cortisol (a biochemical marker of stress) and plasma lactate (a chemical marker of metabolic activity), as well as reduced breath rate and increased blood flow to the brain.

David Sands, MD, director of clinical training for the MUM College of Maharishi Vedic Medicine, says one hypertension treatment problem that TM can solve is poor patient compliance with the treatment regimen. "Compliance with medications is low, partly because a lot of these patients have no real symptoms so there's little motivation," he says.

"Most of the medications produce side effects, also, so the patients see no real benefit. But with

TM, they get benefits in every area of their lives. The immediate benefits are so strong that the reinforcement is there. TM causes people to spontaneously act more healthy. They stop smoking and drinking; they eat better; they get more sleep."

Trained TM teachers around the country give individualized instruction to people on how to practice the technique, which is done twice daily for 20 minutes. The technique involves closing the eyes and inaudibly repeating a personalized mantra that brings the thinking process to a settled state. There is no contemplation or concentration as in other types of meditation techniques.

The seven-step course costs $575, but after learning TM, it can be practiced for a lifetime. The one-time fee covers the course as well as a lifetime follow-up program with advanced lectures and personalized review to ensure correct technique.

A few insurers as well as the U.S. Department of Veterans' Affairs will cover the cost of the course, says **Bob Herron**, associate professor of health economics and policy at MUM. If they don't, they should, because of the tremendous potential cost benefits, he adds.

Herron recently published a study that found medical expenses for a group of 1,418 Canadian patients practicing TM dropped by 5% to 13% annually over six years while a comparison group's payments rose up to 12% annually.[5]

Herron conducted another study that found TM practitioners had a nearly 60% lower rate of medical expenditures than a control group and a hospitalization rate for cardiovascular disease that was 11.4 times lower.[6] TM patients older than 45 had 88% fewer total hospital days than the control group.

Robert Schneider, MD, dean of the MUM College of Maharishi Vedic Medicine, says TM may prevent the need for antihypertensive drugs, avoiding possible adverse side effects as well as high costs. "There are no adverse side effects with TM, but you do get the positive side benefits such as improved psychological health and quality of life."

In September 1999, Schneider, who recently earned the designation of specialist in clinical hypertension from The American Society of Hypertension, received an $8 million grant from the National Institutes of Health to establish the Center for Natural Medicine and Prevention.

The center will study the effectiveness of alternative medical approaches for the treatment and prevention of cardiovascular disease in African-Americans and other high-risk groups. In the last 10 years, Schneider and his national team of collaborators have received more than $10.5 million for research on prevention-oriented natural medicine.

"This federal grant support is based on the recognition of the limitations of modern medicine in preventing heart disease, which despite advances remains the No. 1 cause of death in this country," Schneider says. "The high rates of adverse side effects, skyrocketing costs, and relatively low compliance associated with conventional therapies have led government agencies to support research on promising new approaches."

(For more information on TM, go to: www.mum.edu. For a list of TM class locations, go to: www.tm.org.)

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Program cuts CHF hospitalizations up to 84%

Special scale, monitoring keeps patients in check

A one- to two-pound weight gain in a day signals trouble for congestive heart failure patients, so caregivers instruct patients to weigh themselves every day and call if they experience a sudden gain.

But how accurate are their scales? Can they even see well enough to read the numbers? Do they fear weight gain so much that they imagine the scale says what they want it to? Do they wait

a few days before calling to see if the problem resolves itself?

If you ask yourself those questions, chances are you won't be happy with the answers, and chances are you don't have the time or the resources to stop your patients from falling into the nationwide gap of 3.5 million CHF hospital admissions per year.

About 20 providers — amounting to approximately 1,000 patients in 30 states — with that same problem are looking outside their organizations to cut CHF hospitalizations and related costs through a weight-monitoring device and related heart failure management program developed by San Francisco-based Alere Medical Inc. The early results are encouraging: Several small studies have shown reductions in hospitalizations of 80% to 84% and patient compliance rates of 90% to 95%. A 17-site randomized trial conducted by **Evan Loh**, MD, medical director of the University of Pennsylvania's Heart Failure and Cardiac Transplantation Program, is under way to test these numbers on a large scale.

The Alere program revolves around the DayLink Monitor, a scale platform and communications device that allows patients to obtain at home an objective, accurate daily weight measurement. The information is forwarded electronically to nurses who monitor the results and inform the physician when a problem is suspected, says **Jean Corey**, RN, MS, director of clinical services for Alere.

Physician controls the program

The patient steps on the scale, which is accurate within 4 ounces and accommodates up to 400 pounds, and the accompanying communications device prompts him or her to answer a series of yes-or-no questions designed to assess how the patient is feeling. The information is transmitted by a phone or Internet connection to nurses who monitor it daily and report problems immediately to the physician.

The program is physician-driven; the physician chooses what questions are asked and at what point he or she wishes to be contacted. Nurses monitor the information daily and, if there's a problem, send an "alert" report by fax to the physician that shows a graph of the patient's weight and symptoms in the past 30 days. If the patient is doing well, the physician will receive a routine summary on a weekly or monthly basis. **(See sample report, p. 67.)** The patient's daily questions can be changed remotely at the physician's request, and the data are available to physicians and nurses on Alere's Web site.

"The distinguishing factor about this program is that we stay on top of the patient's [condition] daily," Corey says. "We filter the data and transform them into real, true measurements that the physician can use to make an immediate judgment. Physicians don't get extraneous data, and they find [using the information] lowers their weekend calls."

Alere also offers education services in which nurses will teach patients about their disease by phone, says **Jan Barker**, RN, FNP, MS, Alere's vice president of operations. The nurse will begin by calling the patient once a week or more to ask about their symptoms and find out what their knowledge deficits are. They'll address such topics as recognizing symptoms, understanding medications, and complying with diet recommendations on an individual basis. "Everyone should be educated to his own level and based on his readiness to receive that education," she says. "There's a huge advantage to the phone system because we can call them frequently and give tidbits of information one at a time. If patients don't weigh or if they're getting into an alert situation, we call them and that allows a teachable moment."

A primary nurse calls patients each time if possible, and nurses are working 365 days a year. "This is especially important on holidays and weekends, which is when patients tend to overeat and forget their medications and is also when offices and clinics are closed," Corey says.

Larry Davis, MD, medical director of Quality Care Network in San Antonio, says he's used the Alere program with patients and likes the fact that he's still in charge. "The doctor picks the weight gain at which he wants to be notified from a range of three to seven pounds," he says. "I picked five pounds, and I'd be called if the weight went up that much. Each time they called me, it was appropriate, and I didn't have a single admission. With the Alere monitoring, the doctor doesn't have to watch the patients as closely and they have less office visits."

Davis says he's encountered some resistance among physicians who think they will lose control of their patients or have to look at one more piece of useless paper. But Davis says Alere's program involves very little work on the physician's part.

"This is a program that allows you to ignore it and it will take care of itself," Davis says. "When those alert faxes come across, they stand out and they don't get tossed. It's better for the patients,

(Continued on page 68)

ALERE Heart Failure Program — Patient Report

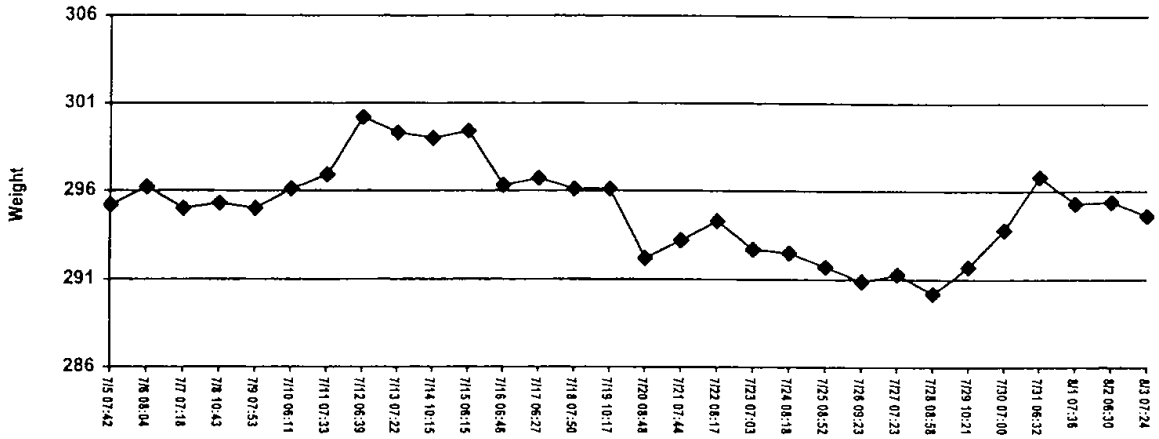
ALERE Medical Incorporated
120 Montgomery Street, Suite 750 San Francisco, CA 94104 Phone: 415-439-6700 Fax: 415-439-6707

Doctor: Dr.
Patient:

Customer:
Alere Nurse Contact: Monica Emrick, RN
Date: 8/3/99 10:56 AM

COMMENTS:
Pedal edema reported for 3 consecutive days, with SOB reported today. Recent weight increase but has stabilized. ME

WEIGHT (Lbs.) OVER LAST 30 DAYS



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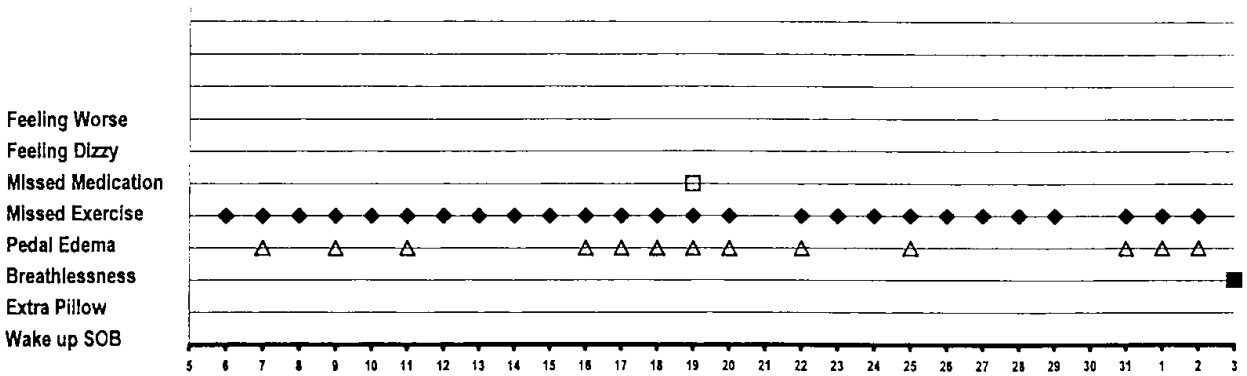

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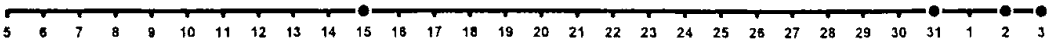
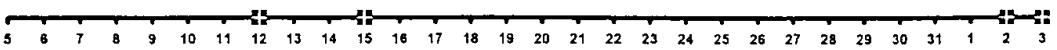


REPORTS SENT TO CLINICIAN



ALERT REPORT

and it gives you time to see other patients. That's more time for the doctor and a better lifestyle for the patient."

The daily monitoring and frequent patient contact is what attracted PacifiCare of Texas to Alere's program, says **Carolyn Seabolt**, RN, state manager of disease management. "We analyzed Texas demographics and found that CHF was the No. 1 reason for males and females over 65 to be hospitalized. We felt we needed to take action."

So far, the action is working. PacifiCare of Texas began enrolling patients in the Alere program in March 1999 and measured an 84% reduction in hospitalizations after six months. PacifiCare's baseline utilization data from 1997 showed a 1.6 per 1,000 admission rate for a primary diagnosis of CHF; that rate is 0.3 now.

The health plan currently has 140 members enrolled in the Alere program and also offers a patient education program called "Taking Care of Your Heart Health" that was developed internally. "Effective education is based on empowering the member to take control," Seabolt says. "We give them the tools and the resources they need to manage their health. If you don't change the patient's behavior, you won't change their outcomes."

Minneapolis-based HealthPartners recently signed an agreement with Alere after 10 years of trying internally to make progress in improving outcomes for CHF patients, says **Jan Wuorenma**, RN, senior director for disease management. Individual clinics had tried implementing telephone monitoring, patient education and distribution of scales to patients who didn't have them at home with some success, but there was no infrastructure in place to identify patients and measure improvements, she says.

"We knew we could make an impact, but there was a lot of frustration for the staff. They tried for 10 years to progress, and things would always slip back," Wuorenma says. "There was no system in place to keep it going when there was staff turnover. If you don't build this kind of thing into the way you work, you can't keep it alive for the long term. In some clinics, only five or six patients are eligible and they can't afford to do it on that small of a scale."

Having a planwide program makes it cost-effective and also allows early identification of patients. "If you have to wait for the claims data to show who the Class III and Class IV CHF patients are, you're behind the eight ball. Now we've got people watching to proactively enroll patients who have severe CHF so they can stay in good shape."

HealthPartners began enrolling patients in November and had only one hospitalization that might be CHF-related among 80 patients in the first three months. "It's early to say what the success will be, but we're hearing anecdotally that patients feel safe now that someone is watching out for them every day," Wuorenma says. "The monitor is very simple so they don't need any technology or know-how. The scale talks to them, they push a button to say yes or no, and they don't slip through the cracks anymore. Partnerships today are necessary to improve patient care. You can try to build something like this yourself, but it's hard to do it quickly and cost-effectively that way." ■

Do you follow guidelines for heart failure?

More patients need beta-blockers, ACE inhibitors

You're busy, perhaps too busy. You have so many demands on your time and so many pieces of paper on your desk that it's impossible to keep up. Who has time to read a 30- or 40-page set of guidelines for the treatment of CHF?

Two sets of guidelines have been published in the last year — one in the *Journal of Cardiac Failure* (1999; 5:357-382) and the other in the *American Journal of Cardiology* (1999; 83:2A). A third set from the American College of Cardiology (ACC) and the American Heart Association (AHA), published in 1995, is being revised now and should be published by the end of this year. That's a lot to keep up with, but you should try, experts say.

"One of the problems of heart failure management is extreme variability in care," says **Marc Silver**, MD, director of the Heart Failure Institute at Christ Hospital and Medical Center in Oak Lawn, IL. Silver helped draft both of the new guidelines and is on the committee for the ACC/AHA set.

"Adherence to guidelines is not that great. Part of that is a distribution problem and part of it is that people just don't have time to read them. But the treatment of heart failure is not totally subject to opinion. There are different ways to skin a cat, but there are not that many ways."

The good thing about the new sets of guidelines is that they deliver a consistent message although they are written for different target

audiences, Silver says. That message includes:

• All patients with left ventricular systolic dysfunction should be given ACE inhibitors and beta-blockers unless they are intolerant of the drugs or have a contraindication to their use. Currently only 40% of patients with heart failure receive ACE inhibitors, and fewer than 5% receive beta-blockers.

• Physicians should work to titrate diuretics to the right dose and monitor the use of the drugs carefully. These drugs should not be used alone, even if they are effective in controlling symptoms.

• Most patients need a small amount of digoxin — in most patients, the dose should be 0.125 mg to 0.25 mg and no higher.

• Angiotensin II receptor blockers are useful drugs but should not be considered primary treatment.

• Patients should be encouraged to exercise, which can provide a number of benefits, including a reduction in neurohormonal activation. Excessive bed rest is not recommended for patients with heart failure.

• Left ventricular chamber size should be documented in every patient.

• Patients should receive an echocardiogram.

• Physicians should seek to understand the risk, benefits, and nuances of heart failure drugs, which are explained in the guidelines.

Which guideline should you read? The paper in the *American Journal of Cardiology*, "Consensus Recommendations for the Management of Chronic Heart Failure," was intended to be a comprehensive approach to CHF care that would be especially helpful for primary care physicians and cardiologists. **(See box, above right.)**

This guideline emphasizes recognition and early diagnosis of the disease as well as nonpharmacologic therapy. It was edited by **Milton Packer**, MD, of Columbia University in New York City, and **Jay Cohn**, MD, of the University of Minnesota in Minneapolis, and was reviewed by more than 150 heart failure specialists.

The paper in the *Journal of Cardiac Failure* was written by a committee of the Minneapolis-based Heart Failure Society of America and is directed at heart failure specialists who need updates on new issues as opposed to comprehensive recommendations. This guideline emphasizes correct use of drug therapy, especially beta-blockers and ACE inhibitors.

The beta-blocker issue is a tough one, but it's vital to CHF treatment, Cohn says. "Tradition has suggested that beta-blockers are not good to be given to people in heart failure, and that's a hard concept to reverse," he says. "Most patients with heart failure are being taken care of by primary care doctors who may be less comfortable using these drugs. There are some downside risks to the drugs. The patients must be carefully monitored and told that they might not feel better at first and may, in fact, feel worse. A lot of physicians are reluctant to embark on this therapy, and they need to have confidence and that's going to take time."

Silver says the guideline writers don't want the same mistakes to be made with beta-blockers as have been made with ACE inhibitors. "We looked back at what we have learned with ACE inhibitors, and it seemed like we were going down the same path with beta-blockers," he says.

"Our first trials with ACE inhibitors were in people with functional Class IV and then we moved back to people with mild-to-moderate heart failure and then mild heart failure and then to asymptomatic patients. We kept learning the

CHF Recommendations

The Consensus Recommendations for the Management of Chronic Heart Failure include:

- ❤ Maintenance of fluid balance by salt restriction and daily monitoring of body weight.
- ❤ Control of atrial fibrillation, anticoagulation in high-risk patients, and revascularization in selected patients.
- ❤ Avoidance of antiarrhythmic drugs, nonsteroidal anti-inflammatory drugs, and most calcium channel blockers.
- ❤ Measurement of body weight is the best way of monitoring when to initiate and/or titrate a diuretic regimen. Proper dosing of a diuretic is extremely important in patients with heart failure. Underdosing with a diuretic reduces the efficacy of ACE inhibitors and increases the risks associated with use of beta-blockers.
- ❤ Treatment with ACE inhibitors and beta-blockers should not be delayed until symptoms are severe or resistant to other drugs. Alleviation of symptoms may be delayed, and disease progression may be modified, even if no symptomatic improvement occurs.
- ❤ Early side effects must not prevent long-term use of ACE inhibitors and beta-blockers.
- ❤ The consensus recommendations favor uptitration of ACE inhibitors and beta-blockers to the target doses used in clinical trials.

Source: Consensus Recommendation for the *American Journal of Cardiology*, 1999.

same lesson: The earlier we use these drugs, the better off the patient is. We felt it was the same story with beta-blockers in that we shouldn't wait another five or 10 years until that message was clear from data," says Silver.

Bill Abraham, MD, associate professor and director of the heart failure and transplant program at the University of Cincinnati Medical Center and one of the reviewers of the consensus guidelines, gives another reason why physicians should read these documents. "Guidelines are always two to three years behind the standard of care. For example, European guidelines discussed the importance of beta-blockers in heart failure in 1997," he says.

"Guidelines often don't get used. I saw a survey that asked hospitals how many of them had inpatient pathways, and the number was 100%. But then it asked how many used those pathways, and the number was 20%. You need a person, a champion, who is invested in heart failure care to facilitate having the right thing done. It takes a grass-roots effort and a personal commitment." ■

Panel to raise quality of care for heart patients

It's hard enough to figure out how to change your daily practice in keeping with the ever-present new advances in heart failure treatment, much less measure whether those changes are improving the quality of care for your patients. But take heart — a panel of experts convened by the American Heart Association and the American College of Cardiology is worrying about that for you.

The panel, including providers, researchers, payers, managed care companies, industry representatives, and assessors of health care quality, published its first report on devising reliable performance measures for cardiovascular disease and stroke in the March issue of *Circulation*.[1]

In addition to that report, a separate paper on evaluating quality of care for CHF patients was published in the on-line edition of the journal (http://circ.ahajournals.org). The group also held a conference, the Second Scientific Forum on Assessment of Healthcare Quality in Cardiovascular Disease and Stroke, in April in Washington, DC, for which abstracts are available at www.americanheart.org.

"There is evidence of great variation in care," says **Harlan Krumholz**, MD, chairman of the conference and associate professor of medicine at Yale School of Medicine in New Haven, CT. "Similar patients can be treated very differently in different towns and regions of the country. We need to be able to measure what we do in order to ensure that all patients get the very best care."

The panel said in its report that clinicians must be involved in the entire process of quality assessment because they are the only people with the knowledge and experience to make judgments based on the clinical realities of medical care. The report cites the need to link development of the clinical guidelines providers use in their daily practice with development of performance measures or quality indicators since they are both dependent on the same body of scientific evidence.

"Not only will such a process allow experts to suggest measures for quality-assessment efforts that reflect the realities of clinical care, but these indicators may also become a vehicle for more rapid translation of strong new evidence into clinical practice," the report says.

Getting new evidence-based information into daily practice is exactly what's needed to improve cardiovascular care, Krumholz says. The medical community has reached the point where it needs to accept greater accountability for the quality of care it delivers."

The panel issued strong warnings against the use of simplistic methods to measure the quality of care being provided by physicians and hospitals. "Report cards" published by various organizations and the recent proliferation of health care rankings available on the Internet are not necessarily valid because they rely more on administrative claims data than on actual patient care information, says **John Spertus**, MD. Spertus is director of cardiovascular education at the Mid America Heart Institute and associate professor of medicine at the University of Missouri in Kansas City. He was the co-chair of the conference and a member of the CHF work group.

"The problem with a lot of the report cards out there is that they measure quality of care by how long patients are in the hospital and whether they died or not," Spertus says. "A lot of what constitutes good care is did the patients get the right medications and how are they doing. A more accurate representation of quality is achieved by assessing clinical data that is adjusted to the variability of patients."

Guidelines can be converted to performance measures, Spertus says, but care must be taken to

select treatments where the consensus would say nonadherence equals poor quality. "You have to be able to measure accurately. For example, beta-blockers might be good for heart failure patients, but not if they have asthma. It's not bad care if you don't get a beta-blocker because you have a contraindication."

One of the most urgent areas for improving performance measurement is heart failure, says **Marvin Konstam**, MD, chief of cardiology at New England Medical Center in Boston and a member of the CHF work group.

"There are new advances taking place all the time in the management of heart failure," he says. "There is still a considerable amount of variability in the way patients are managed, and this variability is very likely to influence clinical outcomes. In addition, heart failure is the single most costly disease entity for HCFA [Health Care Financing Administration]. There is a consensus building that it's important to develop standardized quality measures that reflect guidelines as they are being developed."

Konstam says the kinds of measures that are needed don't really exist except in the report from the panel. But more ideas will be forthcoming from this group and from the Heart Failure Society of America, which has initiated a partnership with HCFA to develop standardized quality measures based on up-to-date treatment guidelines.

Konstam and colleagues around the country are participating in monthly teleconferences to discuss quality improvement. A session will be held on this topic at the society's conference in September in Boca Raton, FL. (See www.hfsa.org for more information.)

The paper from the CHF work group emphasizes quality measures such as implementation of ACE inhibitors and beta-blockers, and measurement of ventricular function. The work group endorsed four specific structural measures for consideration as quality indicators:

1. Clinicians at a care facility should have a document that endorses the best practice for its patients based on clear, evidence-based heart failure guidelines.

2. Clinicians should have a mechanism to systematically monitor patient care and outcomes in alignment with the guidelines and should review this information at least annually.

3. Clinicians should recognize that patients may require different levels of care and that there must be an organizational structure to move patients to the appropriate level of care.

CE objectives

After reading *CHF Disease Management*, health care professionals will be able to:

1. Identify management, clinical, educational, and financial issues relevant to the care of CHF patients.
2. Explain how those issues affect CHF patients and the providers who care for them.
3. Describe practical ways to solve problems commonly encountered by care providers in their daily activities. ■

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4. Clinicians could benefit patients by having specific programs to address the end-of-life needs of many patients with heart failure.

The CHF work group also endorsed four items as quality measures:

1. The medical record of patients with heart failure should have clear documentation of left ventricular systolic function.

2. Patients with heart failure, left ventricular systolic dysfunction, and no contraindications to ACE inhibitors should be prescribed ACE inhibitors.

3. Patients hospitalized with heart failure and left ventricular systolic dysfunction should be treated with digoxin.

4. Patients with NYHA class II and III heart failure, left ventricular systolic dysfunction, and no contraindication to beta-blockers should be prescribed beta-blockers.

Spertus says the whole point of this work is to determine what constitutes state-of-the-art care for heart patients and to develop measures to make sure it's actually being delivered. "If quality measurement is not done right, it will set the whole field back because a lot of erroneous conclusions will be made," he says.

Reference

1. Krumholz H, et al. Measuring and improving quality of care: A report from the American Heart Association/American College of Cardiology First Scientific Forum on Assessment of Healthcare Quality in Cardiovascular Disease and Stroke. *Circulation* 2000; 101:e122-e144. ■

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