Living with diabetes: two stories

Vanessa Jefferson, APRN, CDE, Internal Medicine

When she was diagnosed with type 2 diabetes several months ago, Nancy Bennett, 64 and a retiree, decided that she wanted to avoid taking medication, and to work towards controlling her condition with changes in lifestyle. “The key for me,” she says, “is to establish a healthy routine of diet and exercise.” Bennett has been watching her diet: eating four meals a day and controlling portion sizes. Ideally, she would like to lose weight—“not easy,” she says—and to that end she has been dancing 10–15 minutes daily at home to popular music, power walking, and walking more as part of her daily activities. As she continues with these lifestyle changes, she hopes to see positive results that will allow her to continue avoiding the use of medication.

Craig Miller, 46, works in the Yale University Nuclear Structural Laboratory. He was diagnosed with type 1 diabetes five years ago. “At the time I was diagnosed, I was always thirsty, feeling dragged down, and urinating frequently.”

According to the American Diabetes Association, 23.6 million people in the U.S. today, or 8% of the population, have diabetes, while another 57 million have pre-diabetes. In her article, Madeline Wilson, MD, chief of Internal Medicine, provides an overview of what diabetes is and how it is diagnosed; in the accompanying article, diabetes educator Vanessa Jefferson, APRN discusses diabetes management through the experiences of two YHP members who are living with and controlling the condition.

Beyond our borders: medical mission inspires YHP staff

Rhea Hirshman, editor

On a steamy Saturday last October, a plane whose passengers included six YHP clinicians staff members landed at the airport in San Pedro Sula, Honduras. Along with nearly fifty other American volunteers from CURE International (CI), the YHP staff members were on their way to the village of El Balsamo for a seven-day stint of delivering free medical and dental care to the area’s women, men and children.

Sunday was set-up day; by Monday, the school and surrounding area had been transformed into a medical and dental clinic staffed by physicians, nurses, dentists, a dental hygienist, physical therapists, a social worker and

We love our carbohydrates!

From table sugar and other sweets, to breads, potatoes, pasta and other grains, carbohydrates are a critical source of energy. Once consumed, they are broken down into the simple sugar, glucose. Glucose is then moved efficiently from the bloodstream to the muscle cells that rely on glucose for fuel. The hormone insulin, produced by the pancreas, functions as a gatekeeper that allows glucose into cells from the bloodstream.

Diabetes is a chronic condition in which the body does not handle glucose properly. While there are several types of diabetes with different causes, in all cases the level of glucose in the bloodstream is too high. Diabetes is diagnosed when two separate blood sugar tests after 8-hour fasts show sugar levels over 126 mg/dl. Fasting blood sugars between 100 and 125 are considered “pre-diabetes.” At YHP, we track more than 850 individuals with diabetes, and about three times that number with pre-diabetes.

Adult YHP members with Type 1 or Type 2 diabetes are invited to the Living with Diabetes series on Wednesdays in April. For more information see page 7, or go to www.yale.edu/yhp/health
LIVING WITH DIABETES

continued from page 1

Finally, a sore dry throat made me go to YHP where Dr. John Tokssoy immediately knew what was going on with me.” Following his diagnosis, Miller says, he was in denial. “Being told I had diabetes did not fit my self-image and life style. I am thin and so active. For several years I had a hard time keeping blood glucose readings under control with diet, exercise and the multiple injections of insulin throughout the day.”

People who have either type of diabetes must self-manage their disease on a daily basis, while working with their clinicians who provide education, medical management and encouragement.

Lifestyle modification can help to control diabetes, with diet as the cornerstone of treatment. A number of devices can assist with diabetes self-management. People with type 1 diabetes typically inject insulin, while those with type 2 diabetes may take oral medications and/or insulin.

A number of devices can assist with self-management. Daily monitoring of blood glucose levels is vital; glucose meters have advanced and are now like mini-computers with downloadable programs and printouts. Portable and wearable insulin infusion pumps constantly inject insulin through a needle in the abdominal cavity. Miller, who is successfully controlling his blood glucose, recently began using an insulin pump. “Before getting the pump, my numbers were constantly up and down with multiple injections throughout the day,” he says. “The pump improved the consistency of my numbers. I like the idea of being at a restaurant and programming my pump, instead of pulling out a syringe.”

With the support of family and friends, and with proper self-management and clinical care, people with diabetes are encouraged to continue their normal activities of daily living.

People with diabetes should eat at regular intervals, especially if on certain medications. In addition, since exercise usually lowers blood glucose levels, people with diabetes should include modest exercise in their daily routines. Having a quick source of carbohydrate (e.g., 4 oz. of juice) on hand is important in case exercise drives blood sugar too low.

Medication is usually an important part of diabetes self-management. People with type 1 diabetes typically inject insulin, while those with type 2 diabetes may take oral medications and/or insulin.

The term diabetes has its origin via Latin through a Greek word meaning “passing through” or “siphon”—a reflection of the common symptom of excessive urination. The term “mellitus” comes from a Greek word for “sweet”—a reference to the excess of sugar in the urine and blood.
As we plan for our move to our new facility...we are re-dedicated to providing the best quality care and excellent service at an affordable price.

As I write this, individuals, families, communities, institutions and businesses are dealing with deepening concerns about the nation’s economy. Our University is no exception, as constraints on Yale’s operating budget demand our attention and creativity. For nearly four decades, YHP has offered the Yale community high-quality, cost-effective care. As we plan for our move to our new facility at 55 Lock Street in summer 2010, we are re-dedicated to providing the best quality care and excellent service at an affordable price.

As YHP budgets from year to year, we always look at the investment in the future good health of our community over the long term because so many of our members remain in this community for decades. We begin with the model on which YHP was built—a model based on a serious commitment to prevention and primary care. This vision for patient care has remained consistent despite enormous changes in medicine over the last 40 years, and it explains much of our success.

I have written many times about the quality agenda of YHP, including new and ever-improving systems to track care and encourage members to take advantage of our many preventive services.

With the U.S. facing an epidemic of type 2 diabetes, many of us are aware of the risks of factors such as obesity, cholesterol problems and high blood pressure, as well as the health risks of smoking and lack of exercise. Thousands of our members avail themselves of flu shots and other vaccinations. Many seek routine preventive services such as gynecological exams and skin, breast cancer and colon cancer screenings. YHP promotes these services because we know that the proverbial “pound of cure” is a huge burden compared with the “ounce of prevention.”

Our statistics in delivering preventive services are at least as good as, and in many instances much better than, the best health plans with which we compare ourselves. For example, the YHP immunization rate for children turning two is 82.3% compared to a national average of 62.3%*. The YHP colorectal cancer screening rate is 68.7% compared to a national average of 51.3%. And, the YHP cholesterol screening rate after a cardiac event is 87.9% compared to a national average of 82.7%. However, we are always trying to raise the bar by extending preventive services to every single member.

I write this column for two reasons. One is to thank members who are vigilant and proactive about staying as healthy as possible. The other is to give a gentle nudge to those who may not be paying enough attention to their health. With everything we can do nowadays to prevent, diagnose and treat a wide range of illnesses—and given the availability of information and easy access to health care that YHP offers—I would like to see every one of our members using that ounce of prevention!

Why not see your primary care clinician to discuss your own personalized set of recommendations for health screenings and healthier living? If family members or friends are less vigilant than they ought to be, perhaps you can give them a friendly reminder. Prevention and early detection of health problems are among the best possible investments that you or a loved one can make. As always, I welcome your suggestions.

* National Average Source: NCQA Quality Compass, 2008
There are two common forms of diabetes. In type 1 diabetes, the body does not make sufficient insulin to allow glucose to enter cells. This is the type that is most common in children and adolescents. Treatment of type 1 diabetes generally requires lifelong insulin injections. Type 2 diabetes represents about 90% of diabetes in adults. Most patients with type 2 diabetes have a family history of diabetes, or are obese. This condition results when cells become resistant to the effects of insulin (“insulin resistance”) so that they take up less glucose from the blood. Type 2 diabetes can be treated initially with diet changes alone or with oral medications that improve the cells’ ability to take up glucose. Eventually, patients with type 2 diabetes may require insulin to control their blood sugars.

Type 2 diabetes may be prevented by addressing the conditions that cause insulin resistance. Obesity and inactivity play critical roles in the incidence of diabetes in this country. During physical activity muscle cells require more energy and increase their demand for glucose from the blood stream, thus “pulling” excess glucose into cells. The more adipose (fat) tissue a person has, the more insulin resistant they become. Studies have shown that individuals can prevent or delay the onset of diabetes with weight loss and regular exercise.

Over time, diabetes damages blood vessels and nerves and increases the risk of infection. Patients with diabetes are at significantly increased risk for heart attack and stroke, kidney disease, vision loss, foot ulcers and amputations. We can reduce the likelihood of these adverse outcomes by maintaining blood sugar levels as close to normal as possible with diet, exercise and medication. Tight control of blood pressure and cholesterol, aspirin use and smoking cessation are other aspects of successful diabetes treatment.

At YHP we know that a team approach to managing diabetes works best. By tracking patients closely, providing detailed data to clinicians and reaching out to our patients through education and reminders we have improved the overall health of our diabetes population significantly over the past five years.

One of the most important ingredients in successful diabetes care is active patient involvement in managing the disease. Patients who understand the disease and “know their numbers” are more likely to be successful at treating diabetes and avoiding complications. This may mean checking blood sugars or blood pressure on a regular basis, taking medications daily, and having lab work and medical appointments 2-4 times per year. We recognize that doing this involves hard work and is a lot to absorb, especially for new patients. That’s why YHP has a broad spectrum of staff available to help, including a dedicated diabetic educator, APRN Vanessa Jefferson; a nutritionist; pharmacists; dedicated nurses; and a primary care staff experienced in diabetes management. For more complex cases we work closely with our colleagues in endocrinology.

YHP exceeds national averages in diabetes management

Along with the care provided by our primary care clinicians, YHP’s Living with Diabetes program offers classes and appointments with a diabetes educator. We also send reminders for screenings and lab tests. The Care Coordination Department is available for those who need extra help, such as assistance following hospital discharge and coordination of services. As the chart below shows, we are exceeding national averages in several important areas—and we will continue to improve to deliver the highest level of care possible.

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**Take control: a check list for managing your diabetes**

- Get to know your primary care clinician and team; meet with your clinician 2–4 times a year.
- Organize your medications and take them on schedule.
- Maintain hemoglobin A1c less than 8% and, ideally, under 7%.
- Maintain LDL (“bad”) cholesterol levels under 100.
- Maintain blood pressure readings under 130/80.
- Monitor urinary protein levels and kidney function.
- Have your feet examined at least once a year.
- Have your eyes checked once a year.
- Learn how to modify your diet.
- Exercise daily and lose weight if you are overweight.
- Have the flu vaccine annually and a pneumonia vaccine at least once.

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**DIABETES CARE MEASURES**

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<th>YHP 2006</th>
<th>YHP 2007</th>
<th>NATIONAL AVERAGE*</th>
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<tbody>
<tr>
<td><strong>HbA1c testing:</strong></td>
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<td></td>
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<tr>
<td>Patients with diabetes who have had at least one HbA1c test performed during the year.</td>
<td>80.89%</td>
<td>89.26%</td>
<td>87.95%</td>
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<td><strong>Why is this important?</strong></td>
<td>An HbA1c test, which shows an average of blood sugar level over the past 3 months, is a good way to check overall blood sugar control. Lowering your HbA1c can reduce diabetes complications.</td>
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<tr>
<td><strong>LDL cholesterol testing:</strong></td>
<td>Patients with diabetes who have had an LDL cholesterol test performed during the year.</td>
<td>76.99%</td>
<td>83.89%</td>
</tr>
<tr>
<td><strong>Why is this important?</strong></td>
<td>Heart and blood vessel problems are more common in people with diabetes; lowering LDL reduces heart attack risk. People with diabetes should have their cholesterol checked once a year.</td>
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<tr>
<td><strong>Eye exam:</strong></td>
<td>Patients with diabetes who have had a dilated retinal eye exam during the year.</td>
<td>64.38%</td>
<td>76.48%</td>
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<tr>
<td><strong>Why is this important?</strong></td>
<td>People with diabetes have a higher risk of eye problems. This test can identify eye problems, allowing for early treatment that can prevent blindness.</td>
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*Average as of 2009.
Beyond our borders

continued from page 1

other personnel. “We provided care to over 400 people a day using supplies provided through CI and donated by YHP staff, and other individuals and organizations,” says Melanie McCloskey, BSN, MSN. “We saw everyone from babies to the very elderly; often whole families came together.”

Using local students as translators, the crew treated many of the same illnesses they see here—coughs and colds, aches and pains, digestive distress, rashes, abscesses and a variety of chronic health concerns—as well as problems endemic to that area such as parasites. In addition, says Ronnie Redente, RN, “we saw a lot of problems related to the stresses of the hard physical labor so many of the people engage in.”

Redente notes that providing care sometimes required “some creativity.” Here, she says, “our clinicians can reach for anything we need without thinking twice. There, I would reach for something and say ‘Oops. What’s our second choice?’” McCloskey illustrates. “For one woman with a fracture we made a temporary cast and sling with cardboard and cloth before sending her to the hospital. One elderly man came in suffering from heat stroke. We didn’t have a couch or a bed available, so Ronnie and I settled him in a couple of plastic chairs, started an IV, and in two hours he was up and walking.”

Some challenges came from the environment. The whole country was suffering from severe flooding last fall, and Maureen Romano, RN, notes the difficulties posed by “intermittent sanitation, the lack of drinkable water and the mud from the heavy rain that fell the first few days we were there. We wore plastic bags on our feet to keep them dry!” Deborah Proctor, MD, mentions a different kind of challenge. “I’m an adult gastroenterologist, but when down there I’m seeing patients of all types and ages; when I’m working with children, I’m calling on my pediatrics training from 25 years ago.”

A question that the first-timers discussed with Proctor, Redente notes, was how to think about “what kind of help we were providing for people with chronic conditions. Were we doing them any good by providing 30 days’ worth of medication for hypertension or diabetes?” The answer, Proctor pointed out, is that “bringing care right to their door draws the villagers closer to their own health care system; we wanted to help people connect to local resources. After seeing us, they can go to a clinic with a note from a medical professional identifying their problems and describing our findings.” McCloskey adds, “People told us that they felt better about themselves for making the effort to come.” Meyer concurrs. “We were able to help by listening and caring as well as by treating the medical issues.”

Redente describes the group’s last day in El Balsamo: “That day, the townspeople baked us a cake and served us, one-by-one, and the children all wore their school uniforms to honor us.” Romano adds, “I know it sounds like a cliché, but we received as much as we gave. I came home with a renewed faith in people, in nursing and in my own beliefs.”

The following YHP clinicians were members of last October’s CURE International medical mission to Honduras. CURE stands for Children United Rehabilitation Effort (www.cureinternational.org)

Susan Langerman, FNP, APRN, Internal Medicine
Melanie McCloskey, BSN, MN, Assistant Director of Specialty Care
Molly Meyer, MS, APRN, Student Health, Internal Medicine and Medical Oncology
Deborah Proctor, MD, Professor of Medicine, Yale University School of Medicine and gastroenterology clinician at YHP
Veronica Redente, RN, Assistant Manager, Internal Medicine
Maureen Romano, RN, Endoscopy
FEEDBACK
Our patients have the opportunity to offer feedback through our independent patient satisfaction surveyor, Press Ganey. Surveys are conducted randomly by mail following appointments, and we hope you will take a few minutes to reply so that we can continually improve our services.

No smoking
As of April 1, the YUHS facility and grounds will be completely tobacco-free. A tobacco-free workplace supports our mission to improve the health of our patients and employees. Smoking will be prohibited on all YUHS property and grounds, including the driveways, entry ways, stairs to Helen Hadley Hall, parking lots, seating outside of the building, as well as interior of the building itself.

QUEST LABS UPDATE
YHP members can now have their blood work done at any Quest facility in the six New England states (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont). In the future, we will be expanding this service to additional states.

YALE HEALTHCASTS
YHP clinicians and staff have recorded the first in a series of netcasts—Yale Healthcasts—about health care and wellness issues. Look for them on the University’s iTunesU page as well as on our web site, under Health and Wellness Resources, www.yale.edu/yhp/publications/netcasts.

WE’LL REMIND YOU
For our members’ convenience, YHP has implemented an automated telephone appointment reminder program. The reminders will be made two days before an appointment; calls will include the patient’s name, appointment day, date, time and department where the appointment is scheduled. When scheduling your appointment, receptionists will ask for the phone number where you’d like your reminder call to be made. In addition, the program will provide reminders for important health services that you and/or your family may be due to receive, such as preventive health screenings or immunizations.

Please inform Member Services (member.services@yale.edu or 203-432-0246) if your phone number or any of your contact information has changed. You may also update your contact information by using Yale Health Online at www.yale.edu/yhp.

YHP staff
Employees honored

Each year we honor staff members, both clinical and administrative, whose service exemplifies our mission of providing the highest quality, patient-focused care. This is the second in the series about this year’s award winners.

Employee of the Year: Ramona Fiondella, CMA
In her three years as a medical assistant in the Ob/Gyn Department, Mona Fiondella has been “well-loved by patients, clinicians, and nursing and support staff.” Described by a colleague as “...one of the hardest working individuals I know,” she “brings warmth and kindness to every encounter with staff and patients.” She has become “the go-to person in the department,” and a leader who orients new medical assistants with patience and humor. Another colleague says, “Mona always puts patients’ needs first, coming in early, staying late, doing whatever is needed.” On any given day, “she can be found running the halls—literally,” notes a co-worker. “Mona is so quick on her feet that we gave her a pedometer to count the number of steps she takes each day! We are honored to work with her.”

Consultant of the Year: Kevin Johnson, MD
Kevin Johnson became YHP’s first full-time consulting radiologist in December of 2005. In those three years, “he has overseen tremendous technological improvements,” which make YHP’s radiology facilities “the envy of many hospitals.” But patient care is more than technology and, says a colleague, “Kevin’s calm professional manner can relax the most nervous patient.” He is “constantly exploring ways to improve patients’ experience in radiology, from fresh paint and decorations in the hallway, to working with outside radiologists to share patients’ images.” Always available to consult on cases with both clinicians and patients, Johnson is one of those who “works behind the scenes to help the rest of us provide excellent care to our members.”
**Eat right at any age**

March was National Nutrition Month. This year’s message from the American Dietetic Association (ADA): Whatever your age, it’s never too late to take steps toward a healthier lifestyle.

The ADA recommendations include:

- **Make a plan.** Work on small, specific changes, such as bringing a piece of fruit to work each day, or walking for a half hour at lunchtime. When you accomplish these goals, add a few more.

- **Focus on your food.** Planning meals in advance whenever possible helps you to avoid making unhealthy decisions based on convenience.

- **Make calories count.** Nutrient-rich foods that provide vitamins, minerals, fiber and other nutrients should make up the biggest part of your food selections. These can include whole grains like oatmeal, lean proteins like salmon, produce like broccoli and oranges, and healthy fats such as almonds and olive oil.

- **Increase physical activity.** The ADA recommends that most adults strive to be physically active for about an hour a day. This activity does not have to be done all at once and can be broken up into smaller segments.

- **Play it safe.** To avoid food-borne illness, always clean hands and food contact surfaces, keep raw and cooked foods separate, and maintain proper food temperatures.

- **Be aware of special needs.** Nutritional needs change during the life cycle and state of health; for example older adults need more vitamin D and calcium. Discuss your specific nutritional needs with your clinician.

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**A reminder about HIPAA**

In this age of instant information, concerns about the privacy and integrity of personal data—whether financial, medical, or any other—are now more pertinent than ever. HIPAA (Health Insurance Portability and Accountability Act) passed by Congress in 1996, requires adoption of security and privacy standards by medical facilities and insurance plans to protect personal health information. While the legislation is lengthy and complex, its main features include the following:

- the right to be informed of a “covered entity’s” (e.g. Yale Health Plan’s) privacy practices;
- clear limitations on and parameters for the use and release of individually identifiable health information;
- the right of patients to obtain access and make amendments to their medical records;
- restriction on most disclosures of health information to the minimum needed for the intended purpose;
- the right for patients to obtain access to an accounting of those to whom disclosures have been made;
- establishment of safeguards when records are disclosed for certain public responsibilities, such as public health and law enforcement.

Yale Health Plan’s Notice of Privacy Practices (NOPP) ([www.yale.edu/yhp/documents/nopp.pdf](http://www.yale.edu/yhp/documents/nopp.pdf)) is available for viewing on our web site. If you have any questions, please contact us at 203-432-0246 or at member.services@yale.edu.

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**EVENTS AND CLASSES**

Unless otherwise noted, programs are free (although registration is required) and take place in the YUHS building, 17 Hillhouse Avenue.

- **For new parents**
  
  As your due date approaches the Department of Pediatrics staff invites you and your partner to participate in two classes where you can have your questions answered and meet other soon-to-be-parents in the community. Classes are free but registration is needed. Please stop by the Department of Pediatrics or call during business hours: 203-432-0206, then press 5.

  **Newborn Education**

  Learn about newborn care and promoting your baby’s health; be able to identify common newborn health issues and know when to call your pediatric clinician; become familiar with how to make the best use of the Department of Pediatrics.

  **Breastfeeding**

  Learn about breastfeeding basics, how to get off to a great start, and the joys and benefits of breastfeeding your baby.

- **Living with Diabetes**

  For adult YHP members with type 1 or type 2 diabetes. Topics will include an overview of diabetes, nutrition and exercise, medications, and problem-solving. Led by diabetes educator Vanessa Jefferson, APRN and other YHP clinical staff. Four Wednesdays from April 8 through April 29, 2:45 pm to 4:30 pm, lower-level cafeteria.

  Register by April 6 by signing up online at [www.yale.edu/yhp/health](http://www.yale.edu/yhp/health). Questions? Call 203-436-8393 or go to [www.yale.edu/yhp](http://www.yale.edu/yhp).

  A family member or friend is welcome to attend.

  Please view our Classes and Events page at [www.yale.edu/yhp/health](http://www.yale.edu/yhp/health) for the latest information and additions.
Countdown to 2010
A look behind the scenes as 55 Lock Street takes shape

If you’ve ever moved from even one small studio apartment to another, you know that the process takes a lot of planning—so you can imagine the complexity involved in moving an entire health care facility. As our readers know, construction of the new YUHS building is well underway, with completion scheduled for 2010. Six work groups are addressing a variety of matters related to the new building and the transition between the two buildings. In this and upcoming issues of Yale Health Care, we’ll offer a brief overview of the work of each of these groups.

Materials management
Supplies and equipment are constantly moving into, out of and within the YUHS building: think of deliveries of everything from medications to copier paper, and removal of everything from used syringes to recyclable glass and metal.

The task of the materials management group is to examine, develop and evaluate policies and procedures regarding purchasing and disposal of medical and office supplies, while controlling costs and ensuring the greatest safety and the least interruption for patients and staff. The work is being done within the context of the University’s commitment to environmental sustainability. Below is a partial list of the group’s initiatives:

- Examining and reconfiguring training procedures related to classifying and proper disposal of medical waste, including having information translated into Spanish for contracted cleaning service workers.
- Exploring ways to enhance YUHS’ recycling capabilities for office paper, mixed paper, cardboard, bottles and cans.
- Identifying clinical items that aren’t presently recycled (such as unused plastic tubing and certain containers) and developing recycling protocols for them.
- Determining the best locations in the new building for recycling receptacles.
- Promoting paperless meetings and measuring current office paper purchases and use with a goal of creating significant reduction by January 2010.
- Implementing PAR (Periodic Automatic Replenishment), also known as a “just-in-time” approach to medical supply inventory, which results in more efficient use of clinical resources as well as cost savings. Six departments are now on-line with PAR and all remaining clinical departments will implement PAR by the end of 2009.
- Creating partnerships with outside organizations to reduce costs through joint supply purchases.
- Developing ongoing education for staff and contractors.