

INOVA

MAGAZINE

JOIN THE FUTURE OF HEALTH

SPRING
2014 ►

WHAT BABIES CAN TELL US

*Inova's experts
use genetic clues
to predict future
illnesses*



What Babies Can Tell Us
A study searches for clues about disease from a baby's first two years.



A Driving Force for Women's Health
Anne Beverly Jones' former preemies are now healthy teens.



HEADLINES

the PLATINUM STANDARD



WHIRC uncovers techniques to make treatments more effective

Therapies to treat gynecologic cancers haven't changed patient outcomes substantially over the last two decades, but G. Larry Maxwell, MD, has made it his mission to make sure the treatments available today kill cancer cells more effectively. He is head of the Women's Health Integrated Research Center at Inova, an 8,000-square-foot laboratory developing "bench-to-bedside" therapies for patients. Dr. Maxwell, leader Tom Conrads, MD, and the research team have recently identified a number of molecules that are associated with resistance to conventional chemotherapeutic treatment of gynecologic cancers.

"As a result of our genomic, transcriptomic and proteomic analysis, we've identified a protein that's essential in resistance to platinum chemotherapy and have shown it so far to be a highly valuable target for novel drug development," says Dr. Maxwell, also Chairman of Obstetrics and Gynecology at Inova Women's Hospital at Inova Fairfax Medical Campus. "There hasn't been much change since standard chemotherapies were put into clinical practice almost 20 years ago ... and there hasn't been much luck in finding a replacement. But how do we find a way to enhance them? That's the new perspective."

Using their data, they have developed inhibitors to this "resistance protein" that, when combined with platinum chemotherapy, provide a much more effective therapy in treating all types of gynecologic cancer cells, including those from ovarian, uterine and cervical cancers.

And in partnership with a pharmaceutical company, they have already begun testing an orally available inhibitor with platinum in animal models. Their data has subsequently prompted plans to assess the new strategy in clinical patient trials. "Development of a bench-to-beside intervention for cancer patients is difficult to achieve," he says. "We are optimistic that the success of these more recent efforts will represent another therapeutic strategy."

Meanwhile, the WHIRC research team has just completed a Phase I trial for cancer patients using a vaccine that was developed by the group.

IMPROVING THE ODDS

Learn more about gynecologic cancer research at www.whirc.org.

WHIRC TERMINOLOGY

Genomics = A discipline in genetics focused on sequencing, assembling and analyzing genomes. Genomes are an individual's complete set of genes.

Inhibitor = A medicine used in conjunction with chemotherapy to block a specific and harmful action.

Platinum-Based Therapy = A type of chemotherapy treatment frequently used in ovarian cancer derived from the element platinum.

Proteomics = The large-scale study of the structures and functions of an individual's complete set of proteins.

Resistance = Also known as chemoresistance, a frequent problem in radiation and platinum-based chemotherapies whereby the cancer cell no longer responds to the medicine.

Transcriptomics = The study of RNA molecules produced by the genome.

EDITOR'S NOTE

Inova is a pioneer in the field of medicine, exploring the science of genomics and leading the way in the new era of predictive medicine. Through a network of wellness services, Inova Medical Group physicians, healthcare facilities and hospitals located throughout Northern Virginia, Inova is the largest healthcare provider in the Washington, DC, area. *U.S. News & World Report* has once again named Inova Fairfax Hospital the No. 1 hospital in the DC area, and has ranked the hospital No. 19 in the nation for gynecology and No. 35 in the nation for neonatology. With all five of its hospitals ranked among the region's top 15, Inova is leading the future of health. With the area's only Level 1 Trauma Center and Level 3 Neonatal Intensive Care Unit, Inova is home to the nationally and internationally recognized Inova Heart and Vascular Institute (IHVI), Inova Translational Medicine Institute (ITMI) on genomics, Inova Neuroscience Institute, Inova Cancer Institute and Inova Children's Hospital. Inova's mission is to improve the health of the diverse community it serves through excellence in patient care, education and research.

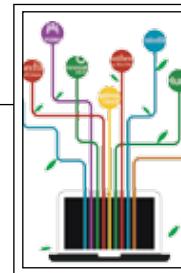
5 Minutes With...
The Molecular Orthopedics team



Living Light
Weight-loss surgery has life-changing effects. Ask John Bersentes.



Purchasing Power
Americans increasingly are looking at healthcare as a household purchase.



BIG WINNERS

Which hospital awards really matter?

Chances are good you have heard or seen an ad (even in the pages of this magazine) about Inova Fairfax Hospital's No. 1 ranking in the Washington, DC, area by *U.S. News & World Report*. In recent years, Inova hospitals have also received positive recognition from such healthcare ratings organizations as Truven, *Consumer Reports*, Healthgrades and *Becker's Hospital Review*. So many awards beg the questions: Which one really matters? And which is the most prized of them all?

The answers are it depends, says Deneen Richmond, Inova's VP of Quality and Performance Improvement. "Everyone, including us, wants to tout the ratings they receive," she says. "Depending on the lens, it's difficult to say one is the best rating of them all."

There can be an entirely different list of award winners for each rating, depending on the metrics used, the methodological assumptions, how fresh the data is and how the organizations analyze the data, she explains. While it seems that the myriad awards end up watering down quality ratings, they actually have "brought about a much higher level of transparency," she says. "As a basis, the consumer assumes hospitals provide good quality care. The ratings show that, yes, hospitals should provide good quality care, but there are differences in the quality of care being provided. The ratings have also given hospitals objective performance data that has helped us to focus our improvement efforts to truly make care and safety better for our patients."

Some awards, of course, have more credibility than others. *U.S. News* and The Leapfrog Group are two examples of prestigious ratings organizations, she says. "We use rankings to have external validation of the quality of care we are providing and to continue to drive our own quality improvement efforts," Richmond says.

And at the end of the day, it's not really about the awards. "It's about how we use the information from all of these different awards to make care better and safer for all of the patients we are privileged to serve," she notes.



LUNCH AND LEARN

Inova launches online video Q&As with top docs

Want some expert medical advice but can't find the time? Inova just made it easier with its free, online video Q&As, called Inova Health Live Chats. Held at least once a month on weekdays at noon, these interactive events provide viewers with access to Inova doctors with a single click. Viewers can submit questions in advance or in real-time via Facebook, Twitter or Google+, or via email.

One lecture held in December was on the subject of taming holiday stress. Scott Vejcik, MD, talked about signs of stress and how to cope, and answered a wide variety of questions from viewers. An earlier lecture covered understanding the differences between the cold and flu and protections against both. Upon completion of the events, the videos are archived on Inova's YouTube channel.

Notes Rob Birgfeld, Senior Director of Digital Marketing and Communications at Inova: "These Inova Health Live Chats were launched to extend Inova's community health education services into the most convenient and appropriate channels. Using live streaming video, we are able to bring answers to seasonal, often hot-button health questions from some of Inova's top doctors."



Doc Talk
Scott Vejcik, MD, offered information about how to deal with stress during a free Inova Health Live Chat in December.



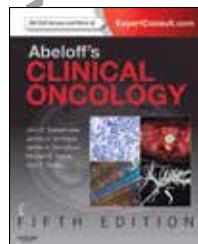
ROLLING INNOVATIONS

Find out about all the latest digital offerings at inova.org.

BY THE BOOK

ITMI chief edits key textbook on cancer

John E. Niederhuber, MD, CEO of Inova Translational Medicine Institute, was the editor-in-chief of a major new reference book on cancer for the international clinical oncology community. *Abeloff's Clinical Oncology, Fifth Edition*, containing 108 chapters, offers the latest advances in the basic science, pathology, diagnosis, management, outcomes, rehabilitation and prevention of cancer. Dr. Niederhuber, who is the former director of the National Cancer Institute, led a multidisciplinary team of editors in compiling this textbook, in addition



to authoring two chapters, Surgical Interventions in Cancer, and Establishing and Maintaining Vascular Access. Dr. Niederhuber has been an editor for the book since its inception and first edition in 1995. The founding editor and eponym of the book, Dr. Martin D. Abeloff, died in 2007. *Abeloff's Clinical Oncology* was published this year by Elsevier.



GONE MOBILE
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WHAT babies CAN TELL US



Groundbreaking study analyzes genetic clues during the first years of life

New parents love to make predictions: “Maybe he’ll play in the NBA,” they say when their newborn tops the height charts. “Maybe she’ll go to Harvard,” they exclaim when their toddler speaks early. But what if we could accurately forecast babies’ future health — knowing that challenges such as asthma, diabetes or cancer lurk before them, but also knowing what will work to prevent or effectively manage this risk, delaying its onset?

This scenario is not some futuristic fantasy. A groundbreaking study by internationally renowned research scientists and physicians at Inova Translational Medicine Institute (ITMI) — established in 2010 to explore the connection between genomics and future health — is plunging into family genetics in a way that promises to transform medical care and individualize the approach to diagnosing and managing disease.

The Inova Fairfax County Longitudinal Cohort study, dubbed the First 1,000 Days of Life Study, has already surpassed initial expectations.

As of early November, about 1,000 families had enrolled in the study, which intends to capture the entire genetic codes of members of 5,000 families over the next four years.

“Right now, medicine is a practice that is very reactive,” says Joe Vockley, PhD, Chief Operating Officer and Chief Scientific Officer of ITMI, which is headquartered at Inova Fairfax Hospital. “You get a disease, you get treatment. Our goal is to predict a risk of disease and then work hard to prevent it.”



WHAT **babies** CAN TELL US

SUPPORT RESEARCH

Consider supporting ITMI by giving to the Inova Health Foundation. Visit inova.org/foundation or call 703.289.2072 to find out more.

'LANDMARK STUDY FOR THE FUTURE'

Each family invited to participate in the study, launched in April 2012, must be pregnant and planning to deliver at Inova Fairfax Hospital. Genomic sequencing — which maps out all of a person's genetic information, including more than 20,000 genes in one process — will be performed using blood samples collected during the mother's prenatal care and from the father and baby upon delivery. Other samples, such as from urine or saliva, help researchers understand how changes in the genes can affect how the body works. The child's four grandparents are also asked to participate and a medical history is compiled on them if their participation isn't possible.

While the study intends to follow babies' development for their first two years — tracking their health, growth and development from parent surveys every six months — researchers hope to extend the follow-up period to each child's 18th birthday to garner a much fuller picture of their overall health, along with risk factors that may have led to disease for those sharing genetic variants.

"I think this could be the landmark study of Fairfax County for the future," says John Niederhuber, MD, Executive Vice President of Inova, Chief Executive Officer of ITMI and professor of oncology and surgery at The Johns Hopkins University School of Medicine. "If we

NEW CHIEF BRIDGES RESEARCH AND PATIENT CARE

It's one thing to map out thousands of patients' genetic codes and quite another to apply that research to the practical aspects of healthcare. But that's exactly what Ben Solomon, MD, was hired to do as Chief of Inova's Division of Medical Genomics.

Dr. Solomon, who started his post in mid-September, is trained and board-certified in both clinical medicine and clinical genetics, making him a perfect bridge between the technical aspects of genomics research and the patient care most physicians concentrate on every day.

"In the last three to five years, there's been a huge explosion in genomic sequencing leading to more and better data," explains Dr. Solomon, who previously worked at the National Institutes of Health, with which he will continue to partner on special projects. "With this fire hose of information, we're playing catch-up to use it in a clinically useful way, so I'm developing new

ways of using and analyzing this data to make it directly helpful with patients."

Dr. Solomon "is an individual we can build around," says John Niederhuber, MD, Executive Vice President of Inova and Chief Executive Officer of Inova Translational Medicine Institute. "He has the ability to interpret from the clinical side and the genomic side what we're dealing with in terms of individual patients and families. Under Ben, we also have a growing group of genetic counselors to help support and counsel patients in many ways."



Ben Solomon, MD

"Rather than taking a snapshot, this is the ability to take a movie. A tremendous amount of what sets the rest of our life occurs during our first 1,000 days of life."

→ JOHN NIEDERHUBER, MD

are successful in this project, 20 years from now people will refer to this study much the same way as they refer to the Framingham heart study," he says. The latter yielded vital clues about cardiovascular health from generations of residents in that Massachusetts town.

"Rather than taking a snapshot, this is the ability to take a movie," Dr. Niederhuber adds. "A tremendous amount of what sets the rest of our life occurs during our first 1,000 days of life."

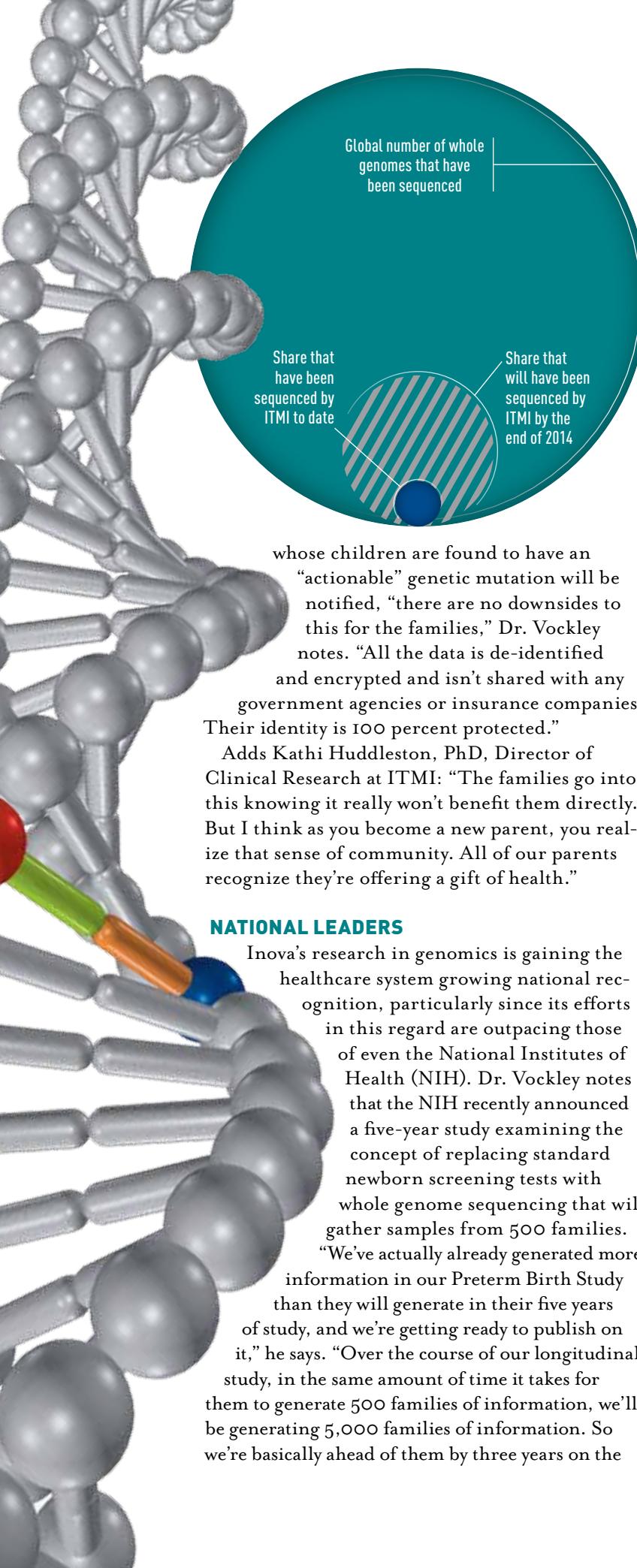
PERSONALIZED MEDICINE GENESIS OF RESEARCH

This effort comes on the heels of ITMI's acclaimed Preterm Birth Study, which was initiated in 2011 and created a genomic characterization of 570 babies born full-term at Inova Fairfax Hospital, 305 babies delivered prematurely and admitted to the Neonatal Intensive Care Unit (NICU), and each baby's mother and father. The combined 2,500 genomes sequenced in that research have already yielded clues about the underlying genetic causes of preterm birth, which affects more than 500,000 babies in the United States each year.

But both projects share a single genesis: the notion that genomics and individualized medicine are essentially one and the same.

"If I know and understand your genome, then I have a better opportunity to understand and work with you as my patient to manage your potential risks for various diseases over the course of your life," Dr. Niederhuber explains. "There may be some diseases we could completely avoid or delay for a long period of time."

Study participants are accruing at a rate of about 80 families per month, a far brisker pace than initially anticipated. While those



whose children are found to have an “actionable” genetic mutation will be notified, “there are no downsides to this for the families,” Dr. Vockley notes. “All the data is de-identified and encrypted and isn’t shared with any government agencies or insurance companies. Their identity is 100 percent protected.”

Adds Kathi Huddleston, PhD, Director of Clinical Research at ITMI: “The families go into this knowing it really won’t benefit them directly. But I think as you become a new parent, you realize that sense of community. All of our parents recognize they’re offering a gift of health.”

NATIONAL LEADERS

Inova’s research in genomics is gaining the healthcare system growing national recognition, particularly since its efforts in this regard are outpacing those of even the National Institutes of Health (NIH). Dr. Vockley notes that the NIH recently announced a five-year study examining the concept of replacing standard newborn screening tests with whole genome sequencing that will gather samples from 500 families. “We’ve actually already generated more information in our Preterm Birth Study than they will generate in their five years of study, and we’re getting ready to publish on it,” he says. “Over the course of our longitudinal study, in the same amount of time it takes for them to generate 500 families of information, we’ll be generating 5,000 families of information. So we’re basically ahead of them by three years on the

UNSUNG HEROES

Breakthroughs in genetic research are grabbing headlines around the world for their potential to prevent, treat and even cure a variety of diseases.

Yet behind the headlines, there are often selfless and unheralded individuals who are fueling the research that is revolutionizing medicine.

Marge and Phil Odeen are two such individuals. Their support of Inova Translational Medicine Institute (ITMI) is as vital to the success of genetic research as the technologies used to sequence and map DNA configurations.

Attending a presentation by ITMI CEO John Niederhuber, MD, piqued the Odeens’ interest in genetics. Already aware of the importance of genetic medicine, the Odeens, after hearing Dr. Niederhuber speak, launched a research effort of their own and discovered that ITMI was at the forefront of applying genetics to personalize medicine.

“It is exciting to be a catalyst in the dramatic change that is taking place in medicine,” says Marge. “Physicians and scientists cannot do research without funding. Anyone can support research. It doesn’t have to be a huge amount.”

Phil adds, “The real opportunity in supporting research at ITMI is the broad benefits it offers to all of Inova’s programs. The research helps Inova doctors across a spectrum of specialties treat patients with a variety of illnesses. In addition, the research raises Inova’s profile, helping it attract the best physicians and scientists.”

first project, and by the time it’s done, will have a study sample that’s 10 times larger.”

But amassing huge databases of genomic information from many sources nationally and internationally — a costly and lengthy undertaking — is what it will take to eventually draw large-scale conclusions about the genetic triggers of disease that are at the root of personalized medicine. Inova invested \$150 million in startup funding toward genomic research at ITMI’s inception.

“Of the number of whole genomes that have been sequenced in the entire world, ITMI’s research comprises 10 percent of that,” Dr. Vockley stresses. “And by the end of 2014, one-third of the world’s genomes will have been sequenced by us. That’s only because the Inova leadership recognizes the importance of this effort. They have really shown a lot of foresight.” ■



Generous Givers

Phil and Marge Odeen help make ITMI research possible.

BEYOND LIMITS

Learn more about Inova Translational Medicine Institute at inova.org/futureofmedicine.

a driving force^{for} WOMEN'S HEALTH

**Anne Beverly Jones
wants to help others
with high-risk
pregnancies**

PHOTO BY
ROBERT RATHE

Nothing causes blood pressure to rise more in adults than enduring the experience of teaching a teenager how to drive. Now imagine doubling that heart-pounding experience with twins!

Yet Anne Beverly Jones is grateful for this experience. A little more than 16 years ago, Anne Beverly was more concerned whether her precious newborn twins would make it through the day, let alone until their 16th birthdays.

In 1997, Anne Beverly was diagnosed with a high-risk pregnancy. She confesses now she knew little about what it meant to be "high-risk" and didn't know there were doctors who specialized in high-risk pregnancies.

Then she met Alessandro Ghidini, MD, at Inova Alexandria Hospital (IAH).

"Dr. Ghidini always had a smile on his face, he had a positive outlook about everything," says Anne Beverly. "If it wasn't for him, my children wouldn't be alive today."

With her delivery date at the end of November 1997, Dr. Ghidini prescribed bed rest for Anne Beverly at home in June, and by August she was moved to IAH.

Two weeks later, Charlotte was born prematurely weighing almost two pounds. Charlotte went immediately to the Neonatal Intensive Care Unit (NICU) at IAH.

Dr. Ghidini tried to delay the second delivery as long as possible. However, four days later, Walter was born weighing only one pound 12 ounces.

After a brief stop in the NICU at IAH, Walter was taken to the NICU at Inova Fairfax Hospital



Mom Knows Best

Anne Beverly Jones is the mother of Charlotte and Walter (background), now healthy teens. Born prematurely, they spent their first days in the Neonatal Intensive Care Unit.

for specialized care.

"The NICU staffs at both hospitals were so gentle and tender with our babies. The infants looked so small and fragile in their incubators. It is amazing they survived," says Anne Beverly.

With two babies at separate hospitals, Anne Beverly and her husband, Freeman, spent a lot of time traveling between the two facilities. Talk about stress!

That is why Anne Beverly became a champion for IAH with a significant family gift to make possible the complete renovation of the IAH NICU in 2007. More recently, Anne Beverly and family again stepped up and provided tremendous support for the new IAH Women's Tower, a four-floor renovation and expansion of women's



services. And she actively serves on the Women's Center Committee to ensure community support for the building expansion.

"The new Women's Tower will be great for women because the focus will be on them," says Anne Beverly. "The new Tower puts the best of women's health under one roof. Women won't have to travel from one campus or one building to another. It will be much more convenient for the doctors and for women."

When asked what advice she would share with women experiencing high-risk pregnancies, Anne Beverly says, "Never give up hope. I have taken Charlotte and Walter, who now stands over 6 feet tall, to visit women and families in the NICU. This helps them to see the light at the end of the tunnel."

"The new Tower puts the best of women's health under one roof. It will be much more convenient for the doctors and for women."

→ ANNE BEVERLY JONES

Anne Beverly and her soon-to-be-driving twins are a light and inspiration to those facing the challenges of high-risk pregnancies. With Anne Beverly's efforts to see the IAH Women's Tower come to fruition, more women and their babies will have hope in the future. ■



TOWER OF STRENGTH

For more information about the IAH Women's Tower Campaign, contact Mary Myers at **703.504.7770** or mary.myers@inova.org.

I 5 MINUTES WITH...I

PHOTOS: DRAKE SORRY



Tapas Sengupta, PhD



Mark Theiss, MD



Jihui Li, PhD



Robert Hymes, MD



Lolita Ramsey, RN, PhD

JUST ONE ? QUESTION...

MOLECULAR ORTHOPEDICS TEAM

Department of Orthopedic Surgery, Inova Fairfax Medical Campus

Tapas Sengupta, PhD, Mark Theiss, MD, Jihui Li, PhD, Robert Hymes, MD, and Lolita Ramsey, RN, PhD, study molecular orthopedics. Among their projects: performing gene sequencing and epigenetic profiling (studying heritable changes in gene activity) to understand why joint replacements fail early in some patients. They also are looking into the mechanisms of injury or trauma-induced osteoarthritis (OA) in young adults to help better understand not only post-traumatic osteoarthritis, but also degenerative, or age-related arthritis. Here is more on their unique area of research.

WHAT DO YOU HOPE TO LEARN AND ACHIEVE FROM THIS RESEARCH?

We hope to learn how the genetic susceptibility factors that we are born with and the epigenetic factors that accumulate because of our interaction with the environment combine to cause diseases. Such research holds great promise for joint replacement and trauma patients, as we will have the ability to individualize implants and personalize care options for each patient based on genetic and epigenetic information that may greatly improve the quality of life for these patients.

HOW NEW IS GENOMIC RESEARCH IN ORTHOPEDICS?

Genomic research, which includes gene sequencing, epigenetic profiling, proteomics (the study of proteins) and metabolomics (the study of chemical processes involving metabolites, the substances necessary for metabolism), is very new in the area of orthopedics. Much of our knowledge in genomic research has stemmed from the study of cancer, and to the best of our knowledge, we are the first team to conduct both genetic and epigenetic studies on an orthopedic patient population.

WHAT MAKES THIS RESEARCH UNIQUE AND CUTTING-EDGE?

Using genomic research concepts and state-of-the-art equipment, we are now identifying the difference in genetic and epigenetic makeup between patients who are having early loosening of implants or patients who are developing OA in their 20s or 30s due to trauma to the joint and the patients without such complications.

WHAT WILL YOU BE WORKING ON IN 2014?

We have just begun to develop necessary collaborations and infrastructure at Inova to bring genomic translational research capability to the Department of Orthopedic Surgery at the Inova Fairfax Medical Campus. Throughout 2014, we will be enrolling patients in our genomic studies to investigate early implant loosening and trauma-induced arthritis. ■

Living Light

Bariatric surgery offers new possibilities

John Bersentes used to battle stress with food. It was a habit that helped Bersentes, 47, an advertising executive in Loudoun County, balloon to 334 pounds. After a sleeve gastrectomy, a weight-loss procedure, he's now down to 185 pounds and he maintains a much healthier outlook on his life.

Carolyn A. Taylor has a similar story. By the time she met Amir Moazzez, MD, the surgeon who would perform her gastric bypass surgery, she was in a wheelchair and weighed 383 pounds. Bad knees, sleep apnea, diabetes, asthma and circulatory problems, among other health complaints, had restricted Taylor's cherished independence. An adjunct professor and operations officer in her husband's IT company, and a grandmother of six, the 66-year-old Taylor had no intention of succumbing to obesity-related disease, not after she'd lost her mother and grandmother to similar complications.

Finally, in July 2012, she checked into Inova Fair Oaks Hospital and underwent a laparoscopic roux-en-Y procedure. After three days in the hospital and a few weeks' recovery time at home, she embarked on a careful series of diet transitions — from liquids, to pureed food, then to a regimen of trying small amounts of different foods — all designed to minimize complications and maximize results. And that result? Thus far, Taylor has dropped an astounding 162 pounds and significantly improved her diabetes. And gone for good are the wheelchair, the sleep apnea, the

asthma and much of the fear that she was slowly dying as a result of obesity.

Like all pre-operative bariatric surgery patients, Bersentes and Taylor had to meet certain requirements first. Explains bariatric surgeon Denis Halmi, MD, who performed surgery on Bersentes: "Everyone on our team participates in the decision of who is a good candidate for surgery, and there's a strict and prescribed process patients go through, with the goal that the surgery is safe, and the outcome is positive."

To begin, bariatric-surgery candidates must have a body mass index (BMI) of over 40 (or 35 if there's a medical diagnosis such as diabetes, high blood pressure or sleep apnea). Next, patients must undergo a psychological evaluation to ensure they're ready for and willing to make the major behavioral changes involved with bariatric surgery. Patients also get nutritional counseling and sessions with

RESULTS-ORIENTED

Weight-loss surgery is a huge life change in terms of what and how you can eat for the rest of your life, but it can also save your life. According to a 2004 study in the *Journal of the American Medical Association (JAMA)*, bariatric surgery patients showed improvements in the following metabolic conditions:

- ➔ Type 2 diabetes: Complete remission in 76.8 percent of patients
- ➔ Hypertension: Eliminated in 61.7 percent and significantly improved in 78.5 percent of patients
- ➔ High cholesterol: Reduced in more than 70 percent of patients
- ➔ Sleep apnea: Eliminated in 85.7 percent of patients
- ➔ Obesity: Surgery patients lost between 62 and 75 percent of excess weight.

LIVING
LIGHT



WHAT SURGERY IS BEST?

Inova Fair Oaks Hospital offers several surgical options. The bariatric team is dedicated to helping prospective patients work out which one is right for their personal and individual weight-loss goals, and their lifestyles.



Laparoscopic gastric banding: A silicone band is placed around the stomach, separating it into two pouches, one large and one small. The band is adjustable.



Gastric bypass (also called roux-en-Y): The most common weight-loss procedure in the United States, gastric bypass involves stapling and partitioning the stomach into a small pouch, which is then connected to the small intestine. This restricts the amount of food that can be comfortably eaten. It also decreases the amount of calories and nutrients the body can absorb. Gastric bypass at Inova can be done laparoscopically or via mini-incision, less invasive procedures that speed recovery.



Sleeve gastrectomy: Here, more than 70 percent of the stomach is removed, leaving behind a smaller, sleeve-shaped organ. Weight loss is achieved by restricting the amount of food that can be eaten; the small intestine is not bypassed.



Biliopancreatic diversion with duodenal switch (BPD/DS): This combination procedure both restricts stomach size (by 70 percent) and bypasses the upper part of the small intestine.

Back on Track

John Bersentes is at a healthy weight after undergoing weight-loss surgery. He weighed 334 pounds at one time.

an exercise specialist, as well as medical testing. In the weeks prior to surgery, a diet program begins, says Dr. Halmi. "It's not like one day you can get the all-you-can-eat buffet, and the next you don't have a stomach." It's a gradual, careful process — and it's what these surgeons credit as the key to long-term success.

CENTER OF EXCELLENCE

Taylor came to Inova Fair Oaks Hospital via her primary care doctor, who recommended it thanks to its designation as a Center of Excellence for bariatric surgery. To receive this designation, centers must meet criteria outlined by the American Society of Metabolic and Bariatric Surgeons (ASMBS) and the American College of Surgeons (ACS), such as physician training, a system of data reporting, and large patient volume as well as breadth of services pre- and post-surgery.

When Inova Fair Oaks Hospital first began offering weight-loss surgery, "Seventy percent of our patients were women, usually in their mid-forties," notes Dr. Halmi. In recent years, that profile has changed. "Unfortunately, the average weight of our patients has gone up, but we've also seen more men than we're used to."

Patient Bersentes brushes off the thought that "as a man" he should have handled his weight on his own. "The fact is, there are real health concerns with obesity, and I wanted to be around for

my children," he says.

Men, he notes, are just as concerned with long-term health risks of obesity as women. Put simply, it's not about looks or vanity. It's about life.

INOVA AND THE FUTURE OF WEIGHT-LOSS SURGERY

Mounting evidence suggests that bariatric surgery can, and possibly should, become a near-standard treatment for metabolic conditions like type 2 diabetes, high blood pressure, high cholesterol and obstructive sleep apnea. "We are marching on," says Dr. Moazzez. "This kind of surgery is the future, as it becomes safer and less invasive, and as we all realize that there is not going to be a pill that cures obesity."

Technological improvements continue. Robotic surgery is the next frontier, says Dr. Moazzez, and endoscopic procedures are coming down the pike in the next 15 to 20 years. At Inova Fair Oaks Hospital, 86 percent of procedures were done laparoscopically in 2013. This translates to smaller incisions, less trauma and faster recovery.

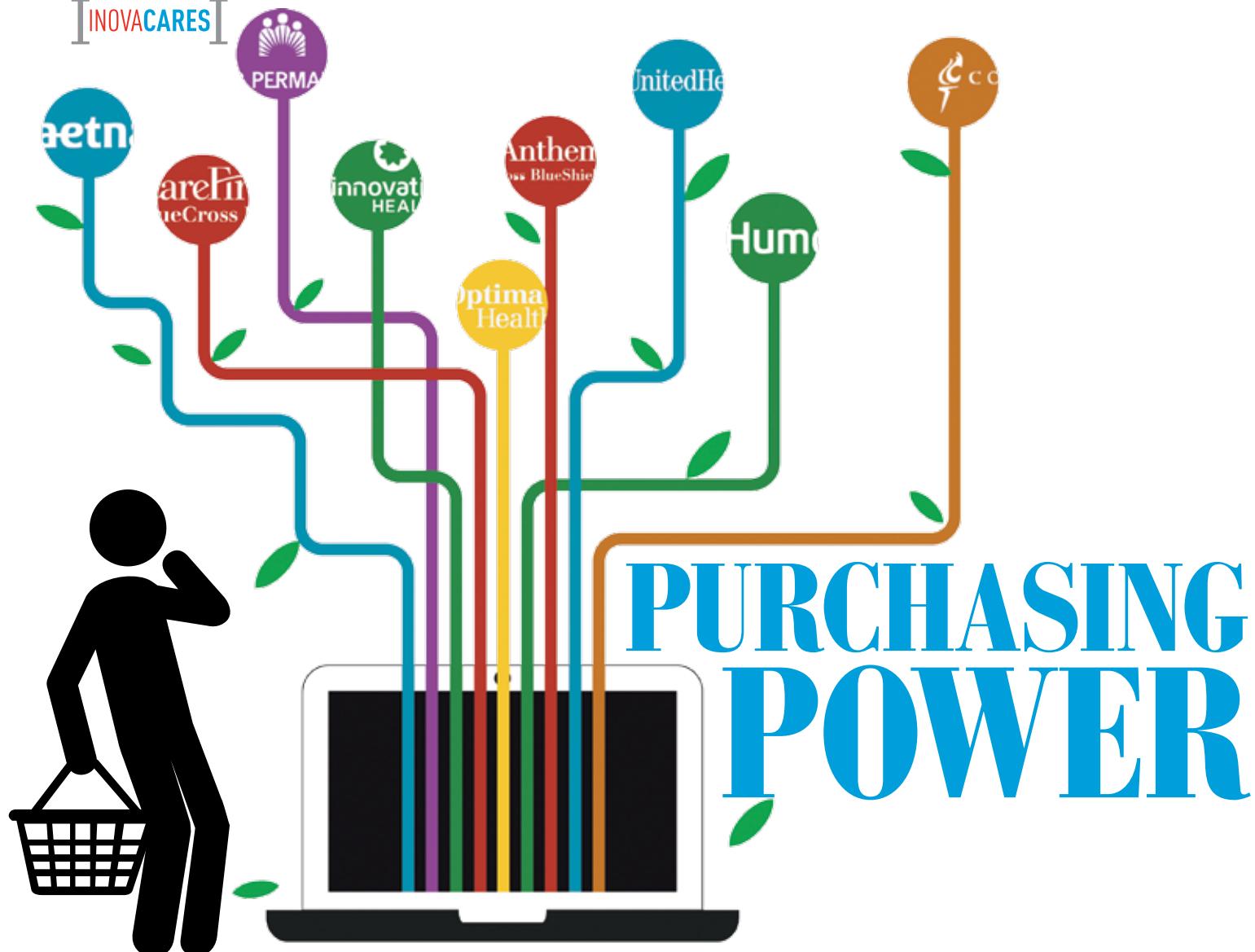
"Here at Inova Fair Oaks Hospital, we exist on the cutting-edge," says Dr. Moazzez. "If there is something that has been researched and proven to help that is safe, we are right there."

As for Carolyn Taylor, she's just thrilled to have her self back. "This is who I've always been inside. Returning to that person is a miracle." ■



A LOSING PROPOSITION

Learn more about bariatric surgery at Inova at inovaweightloss.org.



Individuals playing bigger role in their healthcare

healthcare trends are forcing hospitals to think about the way they deliver services, notes Mark Stauder, President and COO of Inova.

Rising deductibles and co-insurance on the part of employers, for example, is resulting in patients and families bearing a higher private responsibility for healthcare costs. "We are seeing much more caution and discernment on the part of patients and families about utilizing healthcare services because they are paying for more and more healthcare themselves," Stauder says. "Price sensitivity is becoming a very important factor. As individuals are looking for healthcare services, they are using the same approach as buying groceries or furniture or an automobile."

The health exchanges, a pivotal piece of the Affordable Care Act, began providing coverage in January.

While their impact on hospitals will become evident over time, other

This marks a new chapter for healthcare in the United States. "It is the consumerization of healthcare," Stauder says. "Healthcare is beginning to be seen and assessed and the decision made just like any other purchase within the family."

Another trend affecting hospitals is the move from fee-for-service to population health, in which insurance companies, providers and provider networks are taking on more accountability for managing quality and cost of care. This will cause healthcare providers to be more focused on keeping the population well by appropriate monitoring and management, and maximizing the health status of the population.

Both the Affordable Care Act and natural changes in healthcare are driving these two trends, Stauder notes. "Inova is well-positioned to cross this chasm from the fee-for-service model that has been prevalent for 70 years to a more futuristic health management where we are taking

EXCHANGE BASICS

Although many provisions of the Affordable Care and Patient Protection Act have already gone into effect, the healthcare exchanges, considered a centerpiece of the law, began offering coverage in January. Still, questions remain. Here's what participants need to know:

- **What exactly are the exchanges?** They are online marketplaces designed to make it easy for people to shop for health coverage. Exchanges are either state-run or are being handled by the federal government. Those who are interested should go to healthcare.gov to begin the process.
- **What do these plans cover?** By law, all plans must cover a host of essential services, such as maternity and pediatric care and prescription drugs, among other services. They also must include routine preventive care (vaccinations, mammograms, etc.) at no additional cost. There are tiers of plans: platinum, gold, silver, bronze and catastrophic. Platinum plans have the highest premiums but the lowest out-of-pocket costs; bronze have lower premiums, but higher out-of-pocket costs.
- **What if a person can't afford insurance?** When people apply, they'll be asked to provide income information. They may be eligible for Medicaid, or for subsidies to help pay for plans, which will be given in the form of a tax credit or — in many cases — will be sent directly to the insurer to defray costs.
- **Do people have to buy health insurance now?** Yes, if they don't already get coverage through an employer. If they don't have insurance, they will be subject to a fine. This year the fine is \$95, or 1 percent of gross income. It will increase dramatically next year and the year after.

a leadership role and partnering with employers, families and individuals to keep them well and healthy," he says.

HEALTH EXCHANGE

As of January, 40,000 people in Virginia have signed up for the health insurance exchange, or Health Insurance Marketplace, notes Stauder. Enrollment for the exchange ended on March 31 for coverage this year. Some 6,000 people have signed up through the health exchange for Innovation Health, a health insurance joint venture of Inova and Aetna. (Innovation Health, which became licensed last August, sells individual, and small, medium and large group coverage.) About three-fourths of members have chosen the silver plan, notes Stauder. This plan requires consumers to pay 30 percent of their healthcare costs.

How the exchanges will affect hospitals around the country long-term depends on whether states have expanded Medicaid and how employers will adapt. "Only time will tell how many individuals signed up through March and what the future decision-making of employers will be — if they continue to offer employer-based insurance or they give employees a defined contribution and have them choose from the private exchange," Stauder explains. "It will take a couple of years for the entire evolution and maturation to really occur."



A NEW FOCUS ON WELLNESS, PREVENTION

Population health management is a cornerstone of healthcare today. It refers to managing chronic disease and keeping patients well and out of the hospital.

"It's really trying to manage populations who might need extra support," explains Karen Berube, Assistant Vice President for Population Health Management at Inova. "What are we doing for prevention and wellness? How are we managing a chronic disease so you're not in a position where you have to go to the hospital?"

The Patient-Centered Medical Home (PCMH), a concept that is discussed in the Affordable Care Act, ties into this philosophy. As a healthcare setting, the medical home facilitates partnerships between individual patients, their personal physicians and, when appropriate, the patient's family.

MAKE AN APPOINTMENT

To find an Inova Medical Group practice and provider near you, visit inovamedicalgroup.org/primarycare.

TELEMEDICINE TO ASSIST DIABETICS

Inova Medical Group is using a telemedicine-style approach to treat diabetic patients who are at risk for problematic events. This is a form of population health management. "Our goals are to get the A1C levels down, get patients on a good level of fitness and diet, and keep them out of the hospital," notes Nancy Loeffler, Director of Clinical Practice. "These are people with diabetes with patterns of noncompliance, or they've had an event where they're not compliant."

Monica Goldsmith, RN, and Diana Villalobos, RN, call the Inova Medical Group patients and take them through an assessment process. Working closely with a patient's support system, the nurse navigators help to coordinate care with the physician, nurses and diabetic educators in securing lab work in an appropriate timeframe, and map the patient's progress. In some cases, to help improve patients' diets, Goldsmith and Villalobos send recipes or refer patients to healthy food substitutes on the Web. Every plan is tailored to the individual patient. The navigators encourage patients to correspond through IMGConnectMe.org, an online service that allows patients to post videos or send messages. Other communication is telephonic and in-person at clinic visits. Telemedicine allows patients to interact with the navigators who read their journals, send them educational materials to review and give them encouragement. "After 16 weeks of monitoring, our efforts with the first group of 184 patients showed a 68 percent improvement in their overall scores," says Loeffler.





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