

MARCH 2014

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

# ENDOCRINE **news**

## CULTURE & CLASH

In many populations, successfully treating diabetes and other ailments is often secondary to understanding **the patient's culture and traditions.**

**Racial Inequality:  
DIABETES DISCRIMINATES**

**Extreme Prejudice:  
THE DISPARITIES OF THYROID CANCER**

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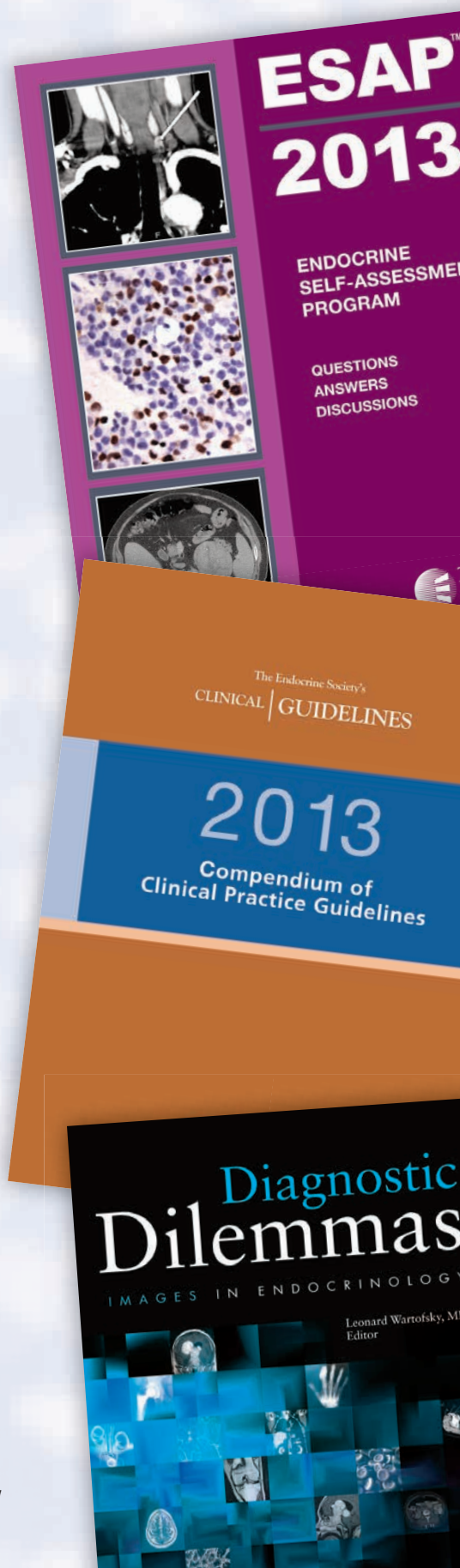
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February 12, 2014

### **Important Notice on JCEM Mass Spectrometry Sex Steroids Assays Requirement**

In the October 2013 issue of the *Journal of Clinical Endocrinology and Metabolism (JCEM)*, a policy requiring mass spectrometry sex steroid assays was published. This new JCEM policy raises important and valuable scientific issues that require broader consideration. In order to properly address the complexity of the issues, the requirement for using mass spectrometry sex steroid assays, which was scheduled to go into effect on January 1, 2015, is suspended pending further scientific review.

A task force of experts is being convened to review scientific policies regarding the reporting of sex hormone measurements in the Society's journals. Once this review is completed, any new policies and/or clarifications will be announced at that time. In instituting a time line for any policy changes, we will be sensitive to the needs of clinical investigators who are conducting and planning studies. We anticipate that the task force will complete their scientific review by June 30, 2014.

Scientific excellence and the concerns of our readers and authors are of the utmost importance to the Society. Please do not hesitate to share your feedback with either of us.

Sincerely,



Teresa K. Woodruff, PhD  
President



Margaret Shupnik, PhD  
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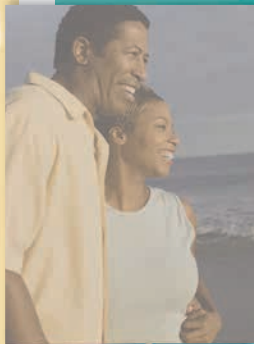
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*Hormone Science to Health*

## The Endocrine Society GOES GLOBAL

The Endocrine Society continues its strategic commitment to global collaboration toward the goal of improved endocrine health worldwide by organizing and participating in numerous international meetings around the world from neighboring Mexico to distant Indonesia.

### Highlights of ENDO 2013 and 2014

One of our newest programs is the *Highlights of ENDO*, which provides endocrine content from our annual meeting in conjunction with the annual meetings of sister endocrine societies. In May 2013, Endocrine Society members and staff traveled to Moscow to participate in the Russian Institute of Endocrinology annual meeting. Over 200 endocrinologists attended the *Highlights of ENDO* session with hundreds more tuning in to a live webcast of the session. In August, the Society headed to Xi'an, China, with the Chinese Society of Endocrinology where 300 people attended our



Teresa K. Woodruff, PhD

highlights session. Finally, last November, we traveled to Cancun, Mexico, and participated in the 53rd Congress of the Sociedad Mexicana de Nutrición y Endocrinología. Each of the 2013 meetings were met with great enthusiasm by our faculty, staff, and the local society members.

The 2014 *Highlights of ENDO* program will begin on May 17 in Seoul, South Korea. This event will be held in conjunction with the Korean Endocrine Society's International Congress of Endocrinology and Metabolism. *Highlights of ENDO* will continue on Sept. 5, in Curitiba, Brazil, with the Brazilian Society of Endocrinology and Metabolism at the 31st Congress meeting of that society. Finally, we conclude on Oct. 9, in Cordoba, Argentina, at the annual congress of the Federación Argentina de Sociedades de Endocrinología. If you are interested in hosting a *Highlights of ENDO* program in your country, please email [ekan@endocrine.org](mailto:ekan@endocrine.org) and check out our website for more information on the 2013 and 2014 programs at <https://www.endocrine.org/meetings/international/highlights-of-endo>.

### Around the World in 2014

Additionally, the Endocrine Society has agreed to sponsor many international meetings in 2014. These include the International Clinical Update in Endocrinology that was held in Hyderabad, India, in February. This was a collaboration between the Endocrine Society (U.S.), the Endocrine Society of

India, the International Society of Endocrinology, and the Society for Endocrinology (UK). The Society's international programming continued in late February with the 4th Emirates Diabetes & Endocrine Congress. Following this event, the Society leadership will attend the European Congress of Endocrinology in Wroclaw, Poland. Discussions have also begun to return to Turkey in October and work with the Society of Endocrinology and Metabolism of Turkey on the 2nd EndoBridge. In late fall, the Society will hold the 5th annual Endocrine Summit in Mumbai, India.

For each of the international meetings the Endocrine Society staff host an exhibit booth to provide information on the Endocrine Society, engage new members, and provide information on the Society's publications. The Endocrine Society now has over 17,000 members from 119 different countries.

The Society will continue its highly successful Ambassador Exchange Program this year as well. More information on the program can be found on our website at <https://www.endocrine.org/advocacy-and-outreach/ambassador-exchange-program>. An article on the program will appear in the May issue of *Endocrine News*.

In addition to all of the international activities the Society has planned in countries around the world, the Society will host the International Congress of Endocrinology (ICE)/ENDO 2014 meeting in Chicago in June in collaboration with the International Society of Endocrinology. This will be the world's largest endocrinology meeting featuring a cutting-edge program, presented by leaders in the field. The Plenary and symposium speakers are outstanding and represent thought leaders from around the globe talking about topics of universal importance to our endocrine community. This exciting program together with the oral presentations selected from a record-breaking number of abstracts promises to make this an exciting year to come to the meeting! Information about the program and exhibits can be found at: <https://www.endocrine.org/endo-2014>.

The Endocrine Society leadership is committed to continuing these international outreach activities and fostering productive and successful collaborations worldwide. Please send your comments or suggestions to [president@endocrine.org](mailto:president@endocrine.org). EN

Teresa K. Woodruff, PhD  
President,  
Endocrine Society

MARCH 2014

# ENDOCRINE NEWS

THE LEADING MAGAZINE FOR ENDOCRINOLOGISTS

*Endocrine News* is a registered trademark owned by the *Endocrine Society*

*Endocrine News* informs and engages the global endocrine community by delivering timely, accurate, and trusted content covering the practice, research, and profession of endocrinology.

The mission of the *Endocrine Society* is to advance excellence in endocrinology and promote its essential and integrative role in scientific discovery, medical practice, and human health.

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Traditionally *Endocrine News* hasn't done theme issues where an entire issue is devoted to a single topic. The belief is that if you devote one issue to a single subject, it might not be of interest to your entire audience, especially an audience as diverse as the members of the Endocrine Society. However, when the topic warrants it, I feel that a theme issue could be vital and my hope is that it would serve as a keepsake that the reader would come back to time and again, or even share with colleagues.

In January, we addressed the Affordable Care Act with two articles about the future of endocrinology under the law, and in this issue we are featuring three articles around the topic of health disparities, a subject I became interested in my very first week at the helm of *Endocrine News* exactly one year ago. I was fortunate enough to be able to attend the Endocrine Society's inaugural Health Disparities Summit in Baltimore, and it was an eye-opening experience to say the least. As a career journalist, I found myself overwhelmed with the new studies and information about health disparities, a subject I had never heard of until that point, but one that I found fascinating.



Mark A. Newman

This focus on health disparities by the Society was spearheaded by past-president Janet Hall, MD, of Massachusetts General Hospital, during her tenure. She opened the summit and told the attendees that the broad goal was to bring together "thought leaders in health disparities and diabetes to have a meaningful discussion of what health disparities are trying to teach us from a scientific perspective and how we can best use the information that we have to provide the best possible treatment for our patients."

So it is in that same spirit that we are presenting an issue of *Endocrine News* built around the topic of health disparities. Associate editor Derek Bagley interviewed a few speakers from last year's summit in his article "Culture Clash" (p. 16), which asserts that in order to treat these patients most effectively, understanding their cultural mores is vital. The article offers up successful case studies from California and Texas. However, success only occurred with these patients once healthcare professionals truly understood their culture.

Diabetes is specifically addressed by Glenda Fauntleroy's article "The Disparity of Diabetes" (p. 20) as she presents recent relevant study findings and talks to a number of physicians treating a disease that very clearly discriminates along racial lines. Likewise, Kelly Horvath's "Across the Line" (p. 25) delves into the racial divide among thyroid disease patients.

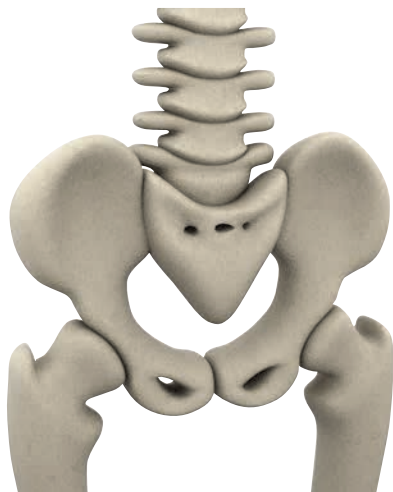
So what do you think of this theme issue? Is it something you'd like to see more of or is it too narrow of a focus? Feel free to let me know at [mnewman@endocrine.org](mailto:mnewman@endocrine.org). EN

Mark A. Newman  
Managing Editor, *Endocrine News*

By Derek Bagley

## CELIAC DISEASE Linked to HIP FRACTURES

Patients who suffer from celiac disease and whose small intestine is chronically damaged may have a higher risk of fracturing a hip, accord-



ing to a paper recently published in the *Journal of Clinical Endocrinology and Metabolism*.

Researchers, led by Jonas F. Ludvigsson, MD, PhD, of Orebro University, studied tissue samples of 7,146 Swedish participants who had been diagnosed with celiac disease from July 1969 to February 2008 and received follow-up biopsies within five years of diagnosis, examining intestinal tissue from the biopsies to determine the level of damage. Among this population, 43% had persistent villous atrophy (VA) where the intestinal tissue did not heal.

The scientists then analyzed patient records to determine how many had broken bones. Patients were moni-

tored for a median of 10.3 years after being diagnosed with celiac disease. The authors wrote that, “Persistent VA was associated with an increased risk of hip fracture (HR 1.67, 95% CI 1.05–2.66). Hip fracture risk increased, depending on the degree of VA (HR for partial VA compared with those with healing 1.70, 95% CI 0.82–3.49, HR for subtotal/total VA compared with those with healing 2.16, 95% CI 1.06–4.41).”

They concluded that persistent VA is “predictive” of a higher risk of hip fracture, but not fracture overall, meaning that, “thinner subcutaneous tissue and fall or trauma may be mechanisms by which persistent VA confers an increased fracture risk.”

## PREGNANT WOMEN Should Be Screened for GESTATIONAL DIABETES

The U.S. Preventive Services Task Force (USPSTF) in January released recommendations calling for pregnant women to be screened for gestational diabetes after 24 weeks gestation. The Endocrine Society responded, agreeing that pregnant women who have not previously been diagnosed with overt or gestational diabetes should be tested at 24 to 28 weeks gestation, but also pointed to its own guidelines, published in the November issue of the *Journal of Clinical Endocrinology and Metabolism*.

The Society recommends universal diabetes testing for women at the first prenatal visit, as outlined in its Diabetes and Pregnancy Clinical Practice Guideline. The authors, led by task force chair Ian Blumer, MD, of the Charles H. Best Diabetes Centre, wrote, “We recommend universal testing for diabetes with a fasting plasma glucose, HbA1C, or an untimed random plasma glucose at the first prenatal visit (before 13 weeks gestation, or as soon as possible thereafter) for those women not known to already have diabetes.”

“Given that many cases of type 2 diabetes are undiagnosed, it’s important to ascertain early in pregnancy whether women have this condition,” Blumer said. “Untreated diabetes poses serious risks to the mother and the fetus, so it is important to reduce the chance of complications through early diagnosis and treatment.”

The authors noted that universal testing for diabetes in early pregnancy could yield a high rate of false posi-

tives, and that women “with positive testing may have anxiety and will suffer the burden of additional testing,” but nevertheless recommend universal testing because the Society places the highest value on preventing fetal complications.

When pregnant women are screened for gestational diabetes at 24 to 28 weeks gestation, the Endocrine Society recommends pregnant women taking a 75-g oral glucose tolerance test, a method that is in line with the consensus panel of the International Association of the Diabetes and Pregnancy Study Groups’ protocol.

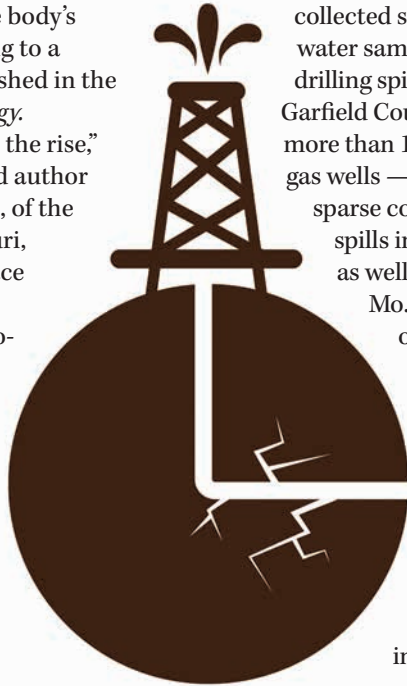


## FRACKING associated with ENDOCRINE-DISRUPTING ACTIVITY IN WATER

Fracking — the controversial drilling technique to access oil and natural gas deposits — uses more than 700 chemicals in the process, many of which disrupt the body's hormones, according to a study recently published in the journal *Endocrinology*.

“With fracking on the rise,” said the article's lead author Susan C. Nagel, PhD, of the University of Missouri, “populations may face greater health risks from increased endocrine-disrupting chemical [EDC] exposure.”

Researchers hypothesized that surface and ground water samples collected in a drilling-dense region of Garfield



County, Colo., and a selected subset of chemicals used in natural gas drilling operations would exhibit estrogen and androgen receptor activities. They collected surface and ground water samples from sites with drilling spills or accidents in Garfield County — an area with more than 10,000 active natural gas wells — and from drilling-sparse control sites without spills in Garfield County as well as Boone County, Mo. — an area “devoid of natural gas drilling.” The scientists then solid-phase extracted the samples and measured for estrogen and androgen receptor activities using reporter gene assays in human cell lines.

Nagel and her team found that 11 chemicals exhibited anti-estrogenic activity, one exhibited estrogenic activity, and nine exhibited anti-androgenic activity. Water samples from sites with known natural gas drilling incidents had greater estrogen and androgen receptor activity than drilling-sparse or absent reference sites, leading them to conclude that natural gas drilling operations may result in elevated EDC activity in ground and surface water.

“Fracking has received several exemptions from federal regulations to protect water quality, but spills associated with natural gas drilling can contaminate surface, ground, and drinking water,” Nagel said. “We found more endocrine-disrupting activity in the water close to drilling locations that had experienced spills than at control sites. This could raise the risk of reproductive, metabolic, neurological, and other diseases, especially in children who are exposed to EDCs.”

## Shared Spousal RISK OF DIABETES

It's well understood that biologically related family members with histories of type 2 diabetes share increased risk of developing the disease, but a study recently published in the journal *BMC Medicine* suggests spouses may also share the risk.

Lead author Kaberi Dasgupta, MD, MSc, FRCPC, of McGill University, and her team wrote, “While heritable factors are important, socio-environmental influences are critical for the expression of genetic risk,” and noted that in addition to “biological” clustering of diabetes, there may also be “social” clustering of the disease. “Spouses are generally genetically unrelated but may share common living environments, resources, social habits, eating patterns, physical activity levels, and other health behaviors,” the researchers wrote.

To evaluate this theory, the scientists studied 75,498 couples using systematic review and meta-analysis of cross-sectional, case-control, and

cohort studies examining spousal association for diabetes and/or pre-diabetes (impaired fasting glucose or impaired glucose tolerance), indexed in Medline, Embase, or Scopus (Jan. 1, 1997 to 28 Feb. 28, 2013).

Their analyses showed spousal diabetes concordance, which was “lowest in a study that relied on women's reports of diabetes in themselves and their spouses (effect estimate 1.1, 95% CI 1.0 to 1.30) and highest in a study with systematic assessment of glucose tolerance (2.11, 95% CI 1.74 to 5.10).”

The researchers wrote, “The random effects pooled estimate suggests that a spousal history of diabetes is associated with a 26% risk increase for diabetes overall without adjustments for BMI (effect estimate 1.26, 95% CI 1.08 to 1.45) and 18% with BMI adjustment (effect estimate 1.18, 95% CI 0.97 to 1.40).”

They concluded, “Recognizing shared risk between spouses may improve diabetes detection and motivate couples to increase collaborative efforts to optimize eating and physical activity habits.”



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THE ENDOCRINE SOCIETY'S 96th ANNUAL MEETING & EXPO

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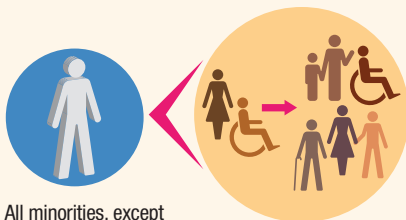
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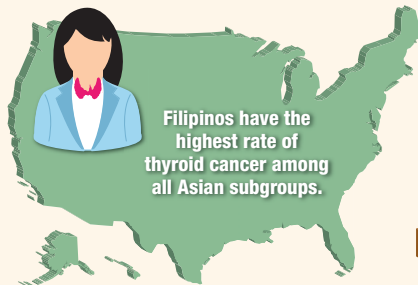
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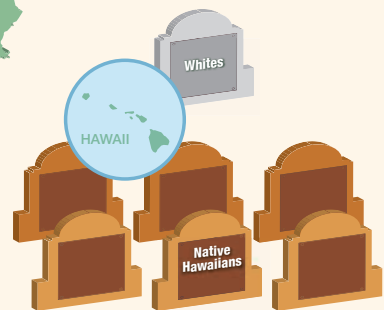
## Fast FACTS About Health Disparities



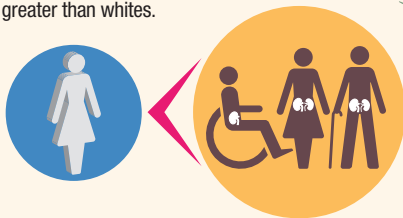
All minorities, except indigenous Alaskans, have a prevalence of diabetes two to six times greater than whites.



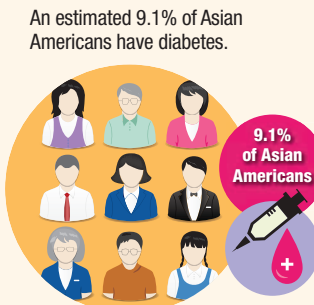
Filipinos have the highest rate of thyroid cancer among all Asian subgroups.



In Hawaii, indigenous Hawaiians are more than 5.7 times as likely as whites living in Hawaii to die from diabetes.

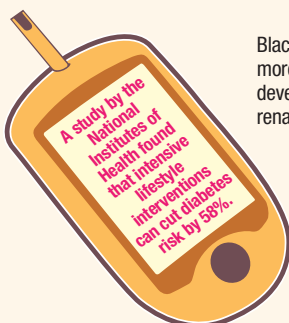


Blacks are almost three times more likely than whites to develop diabetic end-stage renal disease.

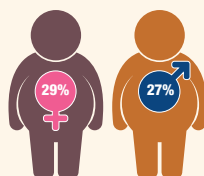


An estimated 9.1% of Asian Americans have diabetes.

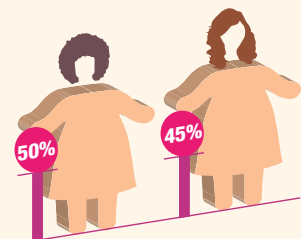
9.1% of Asian Americans



A study by the National Institutes of Health found that intensive lifestyle interventions can cut diabetes risk by 58%.



Black adolescent girls (29%) and Mexican American adolescent boys (27%) have the highest obesity rates among children.



Black and Hispanic women have the highest adult obesity rates, at 50% and 45%, respectively.

# CULTURE CLASH

In many populations, successfully treating diabetes and other ailments is often secondary to understanding the patient's culture and traditions.

By Derek Bagley

In the fall of 2010, the Centers for Medicare & Medicaid Services (CMS) awarded Austin, Texas-based TMF Health Quality Institute — the Medicare Quality Improvement Organization for Texas — a contract to launch the Salud por Vida/Health for Life (SPV) initiative that focuses on diabetes education classes. The target audience for SPV includes Native American and Hispanic Medicare beneficiaries with diabetes, as these two groups experience a higher incidence and prevalence of diabetes, as well as related complications such as heart disease, kidney failure, and amputations.

That same year, 1,700 miles away, the Indian Health Center of Santa Clara Valley (IHC), in San Jose, Calif., contracted with a public health sector insurance plan to expand its already extremely successful Diabetes Prevention Program (DPP), a 17-week lifestyle change program taught by a wide range of healthcare professionals.

Diabetes in the Native American and Alaskan indigenous communities is unfortunately, deemed as “an inevitable fate”, according to IHC community outreach and wellness director, Ramin Naderi.

## Engagement and Empowerment

“The Health Disparities team at TMF understood that engaging the targeted audience would require a thorough understanding of the Hispanic and Native American communities in our state — their history, their culture and preferences, and their views about disease and prevention,” says Brenda Ortiz, program manager for TMF.

In Texas, many Native American people are also Hispanic Americans since a large proportion of these groups are native to the region, with their roots predating modern U.S. /Texas history. “For example,” Ortiz says, “the Kickapoo nation in Texas is a tribal group that has members in Texas and Mexico, but originated from the northern United States in the 1600s. This group travels between both countries at various times of the year and is fluent in Spanish, English, and other Algonquian dialects.”

To engage the Kickapoo nation, TMF needed to partner with the health center on the Kickapoo reservation and

**“The Health Disparities team at TMF understood that engaging the targeted audience would require a thorough understanding of the Hispanic and Native American communities in our state —**

**their history, their culture, and preferences, and their views about disease and prevention.”**

*— Brenda Ortiz, program manager,  
TMF Health Quality Institute,  
Austin, Texas*



## AT-A-GLANCE

- TMF Health Quality Institute's Salud por Vida/Health for Life initiative and the Indian Health Center of Santa Clara Valley's Diabetes Prevention Program provide diabetes education classes to Native American and Hispanic patients.
- Outreach became an important factor in ensuring success for both programs, as cultural differences needed to be respected.
- The clinics and their respective programs have enjoyed tremendous success and are planning further initiatives.

receive approval from the Council of Elders before any progress could be made in this community. "They were very open," says Ardis Reed, MPH, RD, LD, CDE, diabetes educator at TMF. "They were very engaged and happy to have the tools to train their community."

In 2003, the IHC applied for a grant to "change the face of diabetes in the community," and the next year implemented the DPP. The program follows a curriculum based on a study by the National Institutes of Health that "found that an intensive lifestyle intervention can lower the risk of diabetes by 58%." The mission of the DPP was to take that research and translate it to community settings.

The urban Native American community had already requested a gym at the IHC, one of 30 Native American urban health clinics across the country, a result of the Relocation Act, which enticed many Native American to leave their tribes and move to urban cities, with many settling in California.

"The story of American Indians in America is about disempowerment," Naderi says, and so it is important to "do projects that empower the community."

TMF staff also understood the need to develop a community outreach approach to promote their project, to establish strong relationships in new regions, and strengthen existing partnerships among Hispanic and Native American groups.

TMF pursued partnerships with community health workers and groups that already had an established relationship with the target communities to deliver the diabetes classes. Classes were held in locations that were well-known and easy to access for the community. The group took the "Tupperware approach," says Reed, making house calls and holding classes in patients' homes.

"This was especially important," Ortiz says, "as early discussions with patients revealed that many of them avoided classes held at clinics and hospitals because they felt that the environment was too impersonal. Bringing the classes to their neighborhood or reservation, to be delivered by community health workers or members of the community, made the patients feel more comfortable and was a very important aspect of the project."

TMF developed a strong marketing strategy, including community kickoff events in five regions in the state that had large numbers of targeted patients, which served to announce the start of the project to community members, clinicians, and partners. To boost the marketing campaign, TMF counted on the support of a celebrity spokesperson for the SPV project, "Little Joe" Hernandez, a Grammy Award-winning Texan musician and entertainer, a well-known artist among Hispanic and Native American communities, who also has diabetes.

One of the first steps in undertaking a project this big and daunting, explains Naderi, was getting the entire community on board, because once the community is behind you, the barriers come down. "It all comes back to empowerment," he says.

### "Waste of Time"

Indeed, there were barriers. The first obstacle for the DPP was overcoming the fact that the community felt that the program was a "waste of time," because the community had "lost hope in overcoming diabetes," says Naderi. It also

"This isn't just about free strips and glucose meters. **It's about quality of life.**"

— Ardis Reed, MPH, RD, LD, CDE, diabetes educator, TMF Health Quality Institute, Austin, Texas

## OnPOINT from the Endocrine Society

The Endocrine Society has published a Scientific Statement addressing health disparities entitled Health Disparities in Endocrine Disorders: Biological, Clinical, and Nonclinical Factors (2012). It can be accessed at [www.endocrine.org/HDSS](http://www.endocrine.org/HDSS). The Hormone Health Network also has a patient information sheet on health disparities for patients which can be found at [www.hormone.org](http://www.hormone.org).

became a struggle to find candidates and participants for the program, as the Native American community is a “hidden” population from registries.

Even once participants qualify for the program, retention becomes an issue. Many communities have less education, higher stress levels, little or no income, no insurance, have more comorbidities, and experience more substance abuse problems. “Diabetes is often not the top of the list of priorities,” Naderi says.

With these barriers, “it takes more time to stabilize,” Naderi says. “We had to be proven by staying in practice for years, and now the same folks who doubted us have graduated from the program and also refer family and friends to the program. Hope is restored in the community.”

TMF faced obstacles that included participants’ lack of transportation, childcare issues, and having to attend weekly meetings for six weeks. The team had to be creative, so it engaged the support of many groups in each region, not only those that helped lead the classes, but local Area Agencies on Aging or groups that could provide transportation services. They encouraged the start of new classes in ZIP codes where the Medicare patients resided and provided this guidance to educators, so the classes were in the heart of the targeted communities. The team engaged experienced community health workers as educators, who could effectively build rapport with the patients. “This was crucial to maintaining a good retention rate for the six-week program,” Ortiz says. “The interpersonal communication skills of the educators made the most difference when measuring the success of the classes.”

### “So Simple, but So Important”

By the end of the SPV program in July 2012, the initiative had enrolled more than 10,000 people affected by diabetes in the Diabetes Self-Management Education (DSME) classes.

The TMF team collected a small sample set of clinical data. Results for those patients that completed the six-week class showed that:

- The percentage of participants with an A1c (a three-month measure of blood glucose) <6.5 improved by 73%, within three months after completion of the class. Even a 1% reduction in A1c level is associated with a 37% reduction in microvascular complications, a 14% decrease in myocardial infarction (heart attacks), and 21% reduction in the risk of any diabetes-related complication or death.
- The percentage of participants with LDL (low-density lipoprotein) < 100 improved by 45%, within three months after completion of the class.

The IHC expanded in 2010 to provide its diabetes program to include participants with pre-diabetes with a fasting blood glucose (FBG) of 100 – 125 or (A1c) of 5.7-6.4 ) and patients with non-complicated type 2 diabetes

referred by their primary care physicians. They shared impressive pilot program results at the Endocrine Society’s 2013 Reducing Health Disparities Summit. Of the 32 participants, 18 had diabetes, and follow-up labs showed that 44% of those patients saw a drop in their FBG from diabetic range to pre-diabetic range (<125).

- Five percent of the diabetic patients saw a decrease to normal glycemic range (<100).
- Patients even saw results beyond the numbers. DSME class participants showed improvement in their ability to cope with diabetes and improved skills to self-manage their disease, as evidenced from a pre- and post-patient survey.

“The patients build relationships; they make friends,” Reed says. “They learn problem solving skills. They share with family members [who learn to help them].”

For example, Reed continues, a young lady went to check on her uncle. He didn’t answer the door, so she climbed through a window and found her uncle on the floor, obviously in distress. She tried to help, but he shrugged her off, saying all he needed was water, but, thanks to the DSME classes, the young lady recognized the symptoms of high blood sugar. She called 911, despite her uncle’s protest. The EMT arrived and found that the uncle’s blood sugar was over 800. The EMT told the lady that she called just in time. The uncle recovered in the hospital in five days.

Another patient — an elderly woman — learned in class about carrying her glucose tablets with her. One day, she was babysitting her grandson, making lunch, and began to feel ill — she was in a hypoglycemic episode and collapsed. She didn’t have the strength to make it to her purse, so she instructed her grandson to bring her pills to her. She took her glucose tablet and then had enough strength to make it to the hospital. “So simple, but so important,” Reed says.

Naderi also saw how the DPP affected the families of the participants. During the last graduation ceremony, he says, a young mother approached him with her young daughter in tow. The mother said, “My whole family has problems with complications of diabetes,” and then, while looking at her daughter, said, “I don’t want her to end up like that.” “She now has power” Naderi says.

“This isn’t just about free strips and glucose meters,” Reed says. “It’s about quality of life.”

### Next Steps

More than half of the participants who attended the DSME classes had diabetes for an average of nine to 12 years, and roughly half of these participants had never had diabetes education. Reed says that the glaring gap from diabetes diagnosis to education is unacceptable and stresses that it must begin with the practitioner. “I don’t know if practitioners know about the time gap [from diagnosis to education],” she says.

The DPP is not very well known in most of the provider communities, according to Naderi. “In our clinic,

the pre-diabetics would literally just wait until they became diabetic,” he says, “then they take medication.”

Still, with the successes both programs have enjoyed over the past couple of years, they’re each eyeing expansions and other projects. The TMF Health Disparities team is currently working on a similar initiative to SVP, called Health for Life/Everyone with Diabetes Counts, aimed at engaging African American Medicare patients with diabetes.

Naderi says that they must constantly develop different strategies for other at-risk groups, such as the Latino community, and provide pre-natal care in the clinic. “Once our efforts paid off,” he continues, “we saw it as a worthy cause, not just for the American Indian community, but for the world.” **EN**

— Bagley is the associate editor of Endocrine News. He wrote about the new Endocrine Society offices in the February issue.

“Once our efforts paid off, we saw it as a worthy cause, **not just for the American Indian community, but for the world.**”

— Ramin Naderi, outreach and wellness director, Indian Health Center of Santa Clara Valley, San Jose, Calif.

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# SEPARATE



# BUT

**T**he statistics prove the differences. The Centers for Disease Control and Prevention (CDC) recently reported that an estimated 26 million U.S. adults (11% of the population) had diabetes in 2011. The prevalence of the disease, however, is far from equal among the races.

According to the CDC, 6% of whites have diabetes compared with 11.5% of Latinos, 11.3% of blacks, and nearly 8% of Asians. Blacks are 77% more likely to have diagnosed diabetes, and Latinos are 66% more likely than whites, reports the American Diabetes Association. And, what's more, minorities with the disease suffer far worse health outcomes. The long list of racial and ethnic disparities include:

- Mexican Americans are 50% more likely to die from diabetes than whites.
- Blacks are almost 50% more likely to develop diabetic retinopathy.
- Blacks are two to five times more likely to suffer from kidney disease.

The good news, though, is that many in the health-care community who treat diabetes are searching for solutions to close the disparity gap. Marshall Chin, MD, in the Department of Medicine at the University of Chicago and director of Robert Wood Johnson Foundation's Finding Answers: Disparities Research for Change, says making more providers aware of the problem is a crucial step.

"It's important for providers who care for diabetes patients to report clinical performance data stratified by race, ethnicity, and socio-economic status," Chin explains.

"We know most providers are well-meaning, but many do not believe there are disparities in their own practice because they are good moral people and wouldn't discriminate," he says. "But, by and large, when providers look at these stratified data and see the disparities, people then are motivated to make changes."

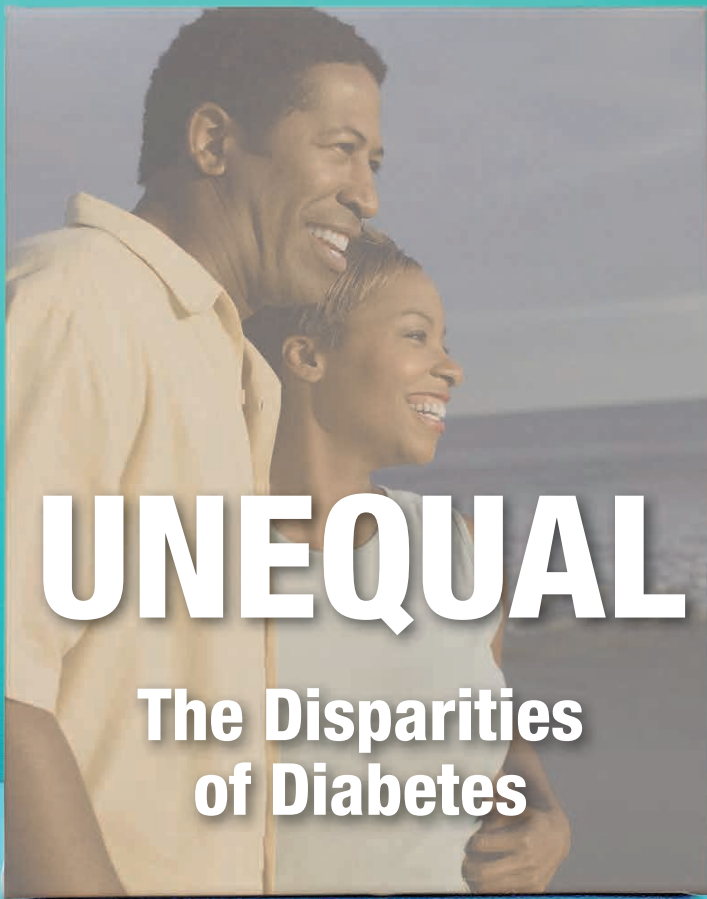
To have the most impact on reducing disparities in diabetes care and outcomes, there needs to be broad, targeted approaches, Chin says.

"Doctors and nurses need to be able to provide care that is closely tailored to patients so it's more likely to work," he continues. "And we need interventions in the community because diabetes is largely a chronic disease of self-management, and 99% of the time the patient is managing his or her condition at home as opposed to in my office, so we need to work with community partners to make it more likely these patients can live healthy lifestyles."

### **Community Solutions**

Chin and Monica Peek, MD, are co-founders of the Improving Diabetes Care and Outcomes on the South Side of Chicago project that partners clinics, community-based organizations, and private businesses to help Blacks better cope with the challenges of the disease.

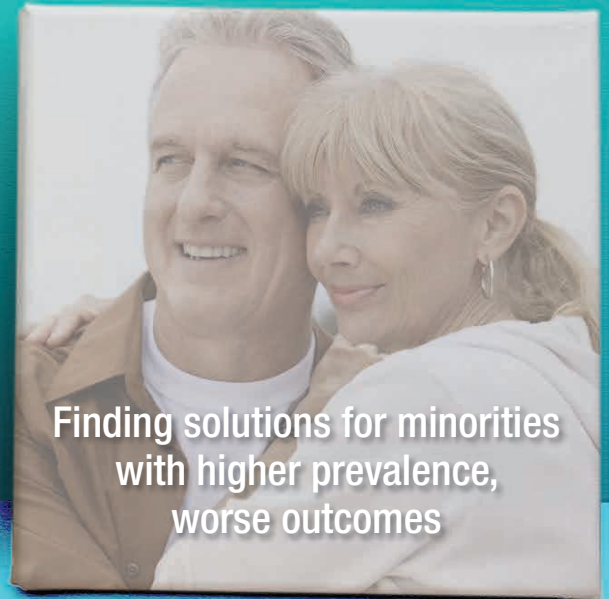
One partnership connects clinics, a local farmers' market, and a major national pharmacy chain to create "food prescriptions" that offer free or discounted healthy food. Physician partners can also prescribe six months of free use of city gym facilities to patients with chronic diseases.



# UNEQUAL

## The Disparities of Diabetes

by Glenda Fautleroy



Finding solutions for minorities with higher prevalence, worse outcomes

At the Joslin Diabetes Center in Boston, endocrinologist A. Enrique Caballero, MD, is the director of the Latino Diabetes Initiative and agrees community outreach is key to reducing the disparity gap. Caballero developed four components by which to improve the lives of Latinos with diabetes: clinical care and education, research, outreach, and professional education programs.

“I think it is important to know that in the Hispanic community there are a lot of traditions and cultural factors that may delay the diagnosis of diabetes and perhaps decrease adherence to therapies,” says Caballero. “What we’ve found that has been very successful is not only to have a clinical program and an education program that is culturally and linguistically oriented, but also to develop activities in the community that I think is very appropriate for this population and perhaps for others.”

As part of the patient education effort, Joslin recently developed two Spanish language audio-novellas (soap operas) that Caballero says have become very popular.

“We did some studies with our population and found that people like to listen to stories,” says Caballero. “They find it more interesting and more practical than reading.”

“La Historia de Rosa” (Rosa’s Story), for example, features a woman with type 2 diabetes who tells how she dealt with her diagnosis. And “La Historia de José” focuses on all diabetes-related complications. The novellas include practical information about goals, tests, nutrition, exercise, and medications in a culturally oriented manner. The audio CDs and accompanying materials are available from Joslin’s online store.

“These novellas are just an example of some culturally oriented materials that can be identified to really help educate a lot of patients with diabetes in this community,” Caballero adds.

To reach her at-risk population, Kate Lorig, DrPH, director of the Stanford University Patient Education Research Center, developed the Chronic Disease Self-Management Program



## AT-A-GLANCE

- Blacks and Hispanics are 77% and 66% respectively, more likely to be diagnosed with diabetes than whites, respectively, and suffer far worse health outcomes.
- Increasing provider awareness is crucial.
- Targeted community interventions offer solutions.

(CDSMP) as well as the Diabetes Self-Management Program, which is now offered in both English and Spanish in more than 400 sites across the country.

The workshops are given to small groups of 12 to 16 patients for 2½ hours once a week for six weeks in settings such as community centers, libraries, and hospitals. They are led by other peers with diabetes and cover a wide range of subjects, including how to deal with symptoms, appropriate exercise, healthy eating, and working more effectively with healthcare providers.

In a study published in 2013's September/October issue of *The Diabetes Educator*, 114 adults with diabetes participated in Lorig's CDSMP workshop. Half of the patients started with A1C values of 7% or more, and all had reductions at six and 12 months.

Lorig believes a chief reason for her programs' success is that they help people "self-tailor." "Instead of telling people you have to do this, we tell them 'this is

what we know about eating and diabetes,'" she says. "We really work with them on doing what they can do now and not worry about the ideal."

"Many people with diabetes are overwhelmed," she continues. "A typical diabetes program will give people something like 250 different messages."

"If somebody's faced with 250 things they are supposed to do, they throw up their hands and do nothing. So, what we do in our courses is have only about 80 messages and we make it very clear: 'We don't expect you to do all 80 of these things, but we want to help you do the things that you think would be most helpful and relevant to your life now.'"

In North Carolina, Nicolle Miller of the Division of Aging and Adult Services works with the Living Healthy program that implements both of Lorig's CDSMP and Diabetes Self-Management programs. Since 2010, 2,100 individuals have taken the diabetes workshop, and Miller says participants have benefited from the intervention.

"We examined changes in the four domains of general health, physician communication, symptom management, and interference of daily activities," explains Miller. "We saw significant pre-post improvements in all four of those categories one year after participants completed the program, which is consistent with what Kate [Lorig] and others have found nationally."

## "What Can We Do Better?"

When asked his advice for fellow endocrinologists, Caballero delivers a plain message.

"We all have an opportunity to do a better job in treating our minority patients," he says. "I say this respectfully, but we often blame the patients for not following the recommendations but I think we must ask ourselves, 'What can we do better?'"

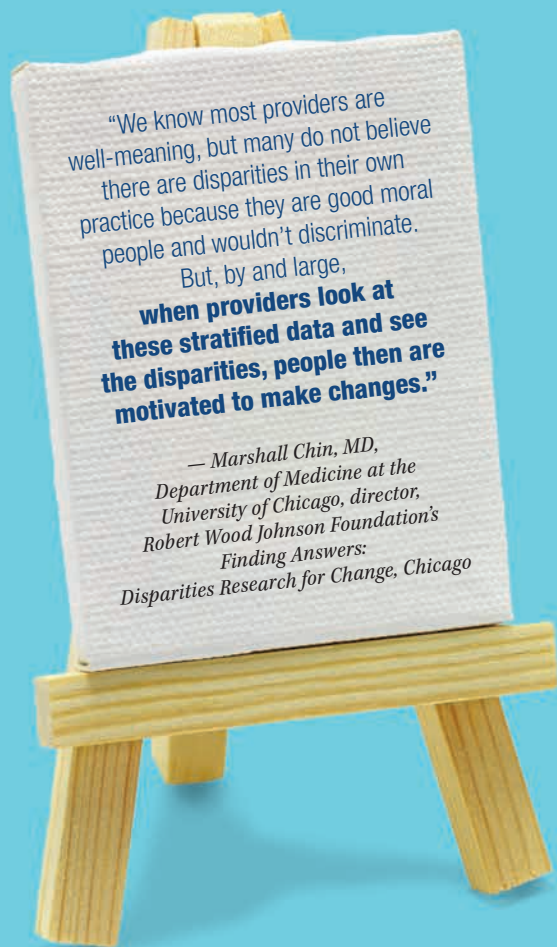
"Getting more familiar with the culture with some of the misconceptions and myths, with some of the self-care behaviors and working together with a patient and the family to address cultural and linguistic issues would be something important for healthcare providers," he continues.

Caballero adds that several states have mandated that physicians get their continuing medical education by participating in programs that address cultural and social issues, which illustrates a step in the right direction.

Chin is also optimistic about eliminating diabetes disparities.

"As long as we do some of the interventions and make some of the changes we know can reduce disparities, things will improve over time," he says. "We know a lot more now than 10 years ago, and the usual way of doing things is not working. So we need to step back and learn from the good work of many others over the past 10 years." **EN**

— Fauntleroy is a freelance writer in Carmel, Ind. She wrote about new practice apps in the January issue of *Endocrine News*.





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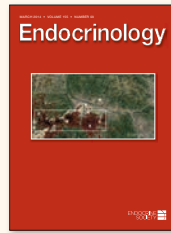


**A Novel Point Mutation of the Human Glucocorticoid Receptor Gene Causes Primary Generalized Glucocorticoid Resistance**

**Through Impaired Interaction with the LXXLL Motif of the p160 Coactivators: Dissociation of the Transactivating and Transrepressive Activities** • Nicolas C. Nicolaides, Michael L. Roberts, Tomoshige Kino, Geoffrey Braatvedt, Darrell E. Hurt, Eleni Katsantoni, Amalia Sertedaki, George P. Chrousos, and Evangelia Charmandari • *The natural mutant receptor hGR $\alpha$ V575G causes Primary Generalized Glucocorticoid Resistance by affecting multiple steps in the glucocorticoid signaling cascade, including the affinity for the ligand, the time required for nuclear translocation and the interaction with the GRIP1 coactivator.*

**The HIV Protease Inhibitor Nelfinavir Downregulates RET Signaling and Induces Apoptosis in Medullary Thyroid Cancer Cells** • Yevgeniya Kushchayeva, Kirk Jensen, Antony Recupero, John Costello, Aneeta Patel, Joanna Klubo-Gwiezdzińska, Lisa Boyle, Kenneth Burman, and Vasyl Vasko • *NFV has a wide spectrum of activity against MTC cells and its cytotoxicity can be augmented by inhibiting autophagy. Expression of NFV molecular targets in metastatic MTC suggests that NFV has a potential to become a thyroid cancer therapeutic agent.*

**Treadmill Running Reduces Parathyroid Hormone Concentrations During Recovery Compared with a Nonexercising Control Group** • Jonathan P. R. Scott, Craig Sale, Julie P. Greeves, Anna Casey, John Dutton, and William D. Fraser • *Lower PTH concentrations after acute endurance running compared with a rested control condition suggest a true effect of exercise.*



**Progesterone-Induced Migration Inhibition in Male Rat Aortic Smooth Muscle Cells Through the cSrc/AKT/ERK 2/p38 Pathway-Mediated Up-Regulation of**

**p27** • Hui-Chen Wang and Wen-Sen Lee • *The data suggest that P4 increased the levels of p27 in RASMCs through activating the cSrc/AKT/ERK 2/p38 pathway mediated by nongenomic progesterone receptor. The findings of the present study highlight the molecular mechanisms underlying P4-induced migration inhibition in RASMCs.*

**Krüppel-Like Factor 9 (KLF9) Deficiency in Uterine Endometrial Cells Promotes Ectopic Lesion Establishment Associated with Activated Notch and Hedgehog Signaling in a Mouse Model of Endometriosis**

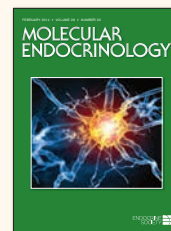
• Melissa E. Heard, Christian D. Simmons, Frank A. Simmen, and Rosalia C.M. Simmen • *The results suggest that endometrial KLF9 deficiency promotes endometriotic lesion establishment by the coincident deregulation of Notch, Hedgehog, and steroid receptor-regulated pathways.*

**Leptin Deficiency in Rats Results in Hyperinsulinemia and Impaired Glucose Homeostasis** • Anna M. D'souza, Ali Asadi, James D. Johnson, Scott D. Covey, and Timothy J. Kieffer • *Together, these data demonstrate that the absence of leptin in rats recapitulates some of the phenotype previously observed in ob/ob mice including development of hyperinsulinemia, obesity, and insulin resistance.*



**Chlorinated Persistent Organic Pollutants, Obesity, and Type 2 Diabetes** • Duk-Hee Lee, Miquel Porta, David R. Jacobs, and Laura N. Vandenberg • *This review examines the relationship between POPs and obesity. There is evidence in animal studies that low dose POP mixtures are obesogenic. However, relationships between POPs and obesity in humans have been inconsistent.*

*review examines the relationship between POPs and obesity. There is evidence in animal studies that low dose POP mixtures are obesogenic. However, relationships between POPs and obesity in humans have been inconsistent.*



**Steroid Receptor Coactivator 1 is an Integrator of Glucose and NAD<sup>+</sup>/NADH Homeostasis**

• Massoud Motamed, Kimal I. Rajapakse, Sean M. Hartig,

Cristian Coarfa, Robb E. Moses, David M. Lonard, and Bert W. O'Malley • *Knockdown of SRC-1 in glycolytic cancer cells abrogated their ability to grow in the absence of glucose consistent with SRC1's role in promoting cellular adaptation to reduced glucose availability.*

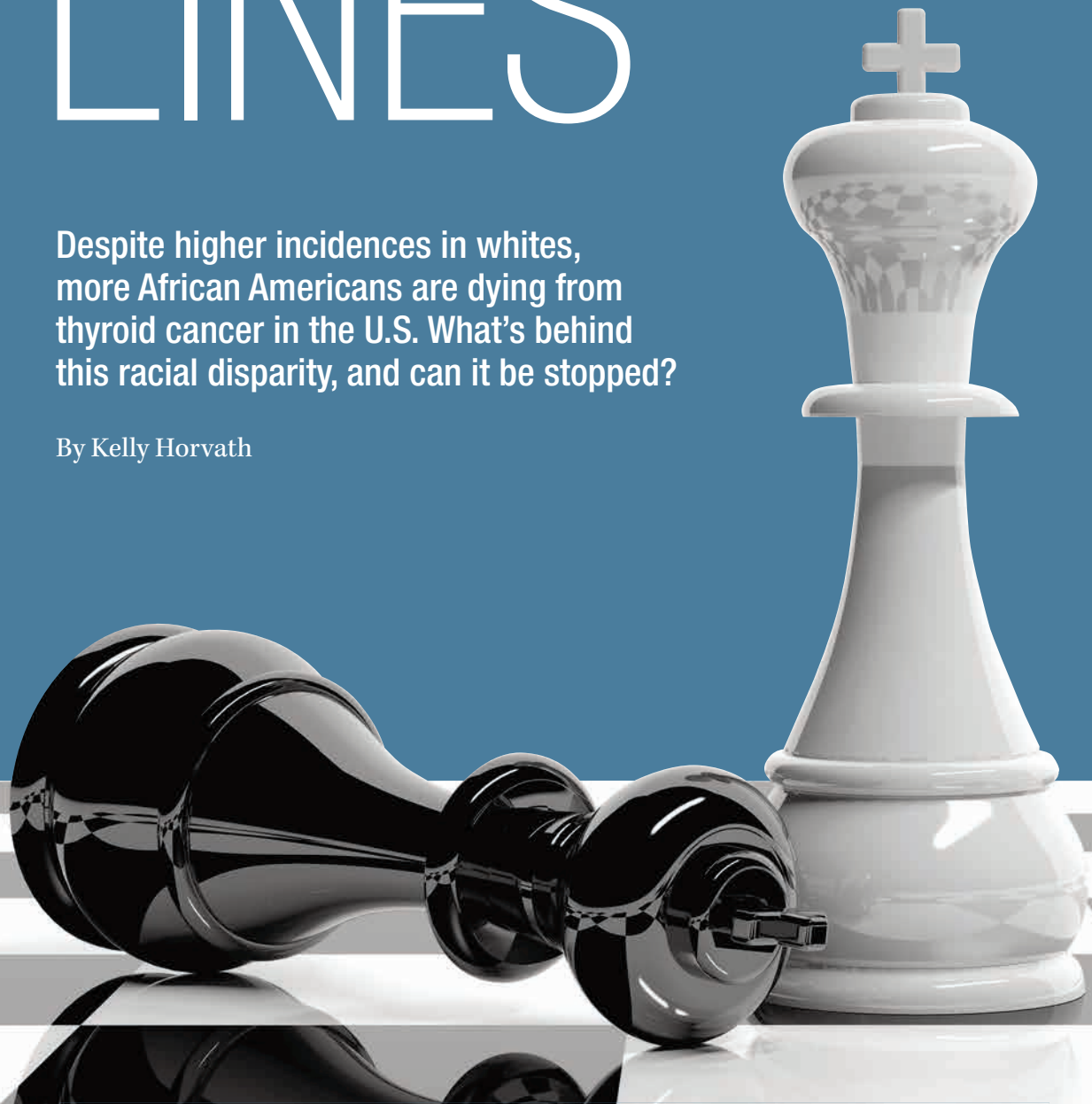
**Decreased Genetic Dosage of Hepatic Yin Yang 1 Causes Diabetic-Like Symptoms** • Francisco Verdeguer, Sharon M. Blättler, John T. Cunningham, Jessica A. Hall, Helen Chim, and Pere Puigserver • *Mechanistically, YY1, through direct recruitment to promoters, functions as a suppressor of genes encoding for metabolic enzymes of the gluconeogenic and lipogenic pathways, and as an activator of genes linked to fatty acid oxidation. These counter-regulatory transcriptional activities make targeting hepatic YY1 an attractive approach for treating insulin-resistant diabetes.*



# Across the LINES


Despite higher incidences in whites, more African Americans are dying from thyroid cancer in the U.S. What's behind this racial disparity, and can it be stopped?

By Kelly Horvath



## AT-A-GLANCE

- Thyroid cancer incidence is rising ~6.4% annually, with mortality rising ~0.9% annually.
- Despite African Americans having a much lower incidence of thyroid cancer than whites, they are significantly more likely to die from it.
- African Americans are more likely to present with metastases and  $\geq 4$ -cm tumors than are whites, who typically have highly curable forms of thyroid cancer at diagnosis.



**“It is important for physicians to be aware of disparities in the treatment of certain thyroid disorders, such as thyroid cancer, so that they can play a role in preventing and narrowing the gap in these disparities.”**

— Sherita Hill Golden, MD, Johns Hopkins University School of Medicine, Baltimore

**T**hyroid cancer is the ninth most common cancer and the single most common endocrine cancer in the U.S., and incidence is rapidly increasing. According to National Cancer Institute (NCI) estimates, there were 60,220 new cases of thyroid cancer in 2013 as well as 534,973 Americans currently living with the disease.

This increase has not come with a concomitant rise in mortality from thyroid cancer, however, leading many researchers to question whether improved detection methods have led to overdiagnosis. With overdiagnosis potentially comes overtreatment, according to a study led by Juan Pablo Brito, MBBS, from the Mayo Clinic Robert D. and Patricia E. Kern Center for the Science of Health Care Delivery, in Rochester, Minn.

Unless the patient belongs to a U.S. racial minority, that is. An estimated 1,850 deaths from thyroid cancer occurred in 2013, of which a disproportionate number were African American. Despite its very high survival rate and that it is twice as common among whites than African Americans, African Americans have a higher mortality rate from thyroid cancer, as several studies show. While many thyroid cancer patients are being *overtreated*, are African Americans being *undertreated*, and, if so, what accounts for this outcome disparity?

### **African Americans and Anaplastic Thyroid Cancer**

In 2011, a team of researchers led by Christopher S. Hollenbeak, PhD, and David Goldenberg, MD, of the Penn State College of Medicine, in Hershey, Pa., asked that very question. With 15 years' worth of data from 25,210 white and 1,692 African American patients from the Surveillance, Epidemiology, and End Results (SEER) registry, they first demonstrated that five-year survival rates differed along racial lines and also examined whence these differences derive. “Our study found a small but significant increase in risk of mortality for African Americans with thyroid cancer. We also found that this increased risk is largely attributable to differences in the type of disease,” Hollenbeak says.

Of the four histologic types of thyroid cancer, papillary (most common [80%–90%] and most treatable), follicular (second most common [15%] but more likely to metastasize), medullary (3%), and anaplastic (most rare [1%–5%] and most aggressive), African Americans were 2.3 times more likely to have anaplastic disease, approximately 80% more likely to have follicular disease, and nearly twice as likely to have tumors measuring at least 4 cm than whites.

“African Americans were more likely to present with anaplastic thyroid cancer, which carries a higher mortality rate,” Hollenbeak says. “So, although the overall rate of thyroid cancer tends to be lower among African Americans, it appears to be slightly more severe. We cannot rule out that the increased mortality is due in part to lack of access to care.”

Because thyroid cancer is typically symptomless, patients without regular healthcare can go undiagnosed for years. That African Americans commonly had larger tumors suggests that those tumors perhaps had persisted longer before diagnosis, giving them time to enlarge. The combination of advancing age plus anaplastic disease with few treatment options results in very poor prognoses.

### **Gaps in Access to Care**

These striking findings launched much-needed investigation into healthcare disparities, such as those summarized in the 2012 Endocrine Society Scientific Statement, “Health disparities in endocrine disorders: biological, clinical, and nonclinical factors.” This literature review looked at race and sex disparities in specific endocrine disorders including thyroid cancer. It sought to determine both what factors might cause these disparities as well as to highlight areas requiring additional investigation. Headed up by Sherita Hill Golden, MD, of the Johns Hopkins University School of Medicine in Baltimore, the team of reviewers found not only additional support for the hypothesis that African Americans have higher death rates from thyroid cancer than do whites, but also that obesity contributes to worse outcomes for women with thyroid cancer. They also found that these disparities exist worldwide, not just in the U.S.

What they did not find was any significant evidence that genes play a role in the difference in outcomes, which, again, suggests, that lack of access to care is possibly the underlying mechanism.

“It is important for physicians to be aware of disparities in the treatment of certain thyroid disorders, such as thyroid cancer, so that they can play a role in preventing and narrowing the gap in these disparities,” Golden says. “For example, physicians can help patients with more advanced disease, who are often low-income minority individuals, to gain access to high-volume surgeons to improve clinical outcomes in disadvantaged groups.”

Indeed, not only is the disease commonly more advanced at presentation among African Americans, but how it is surgically treated can also differ. Katherine Hayes, MD, from Emory University in Atlanta, presented her team’s findings at the 82nd Annual Meeting of the American Thyroid Association (ATA) demonstrating that certain groups (African Americans along with women and older adults) were less likely to have lymph nodes also removed during thyroidectomy and were not treated at high-volume institutions, despite existing ATA guidelines.

Such clinical interventions are key, but nonclinical interventions could also help, Golden’s team says. As has been shown successful with diabetes care, multilevel interventions can make at-risk populations more aware of their risk of thyroid cancer and death from thyroid cancer and can also target weight loss, which could improve disease burden in thyroid cancer as well as other endocrine disorders.

### Need for Effective Interventions

Then, in 2013, a retrospective cohort study delved into racial and socioeconomic disparities among 25,945 patients with well-differentiated thyroid cancer from the California Cancer Registry from 1999 to 2008. Of the cohort, 7% were white, 4% were African American, 24% were Hispanic, and 15% were Asian-Pacific Islanders. This study, which was presented at Endo 2013, was led by Avital Harari, MD, from the University of California in Los Angeles, and again showed that African American patients and those with low socioeconomic status (SES) suffer worse outcomes and have lower survival rates than other groups. “Race, social status, wealth, and health insurance coverage make a difference in how advanced thyroid cancer is at presentation,” Harari says.

Low SES patients were 45% more likely to have metastatic cancer and twice as likely if they were poorly insured, uninsured, or on Medicaid. African American

patients fared the worst, however, with the lowest survival rates among the minority groups studied. Despite also being more likely to present with remote or advanced disease, Hispanics and Asian-Pacific Islanders demonstrated a possibly genetic survival advantage, although survival rate was still lower than that for privately insured or higher SES patients. “Our work highlights the importance of developing interventions that will lead to equalization of care, better preventative practices, and earlier treatments,” Harari says. “Our group is interested in the underlying predisposing factors leading to the increased incidence and advanced disease in thyroid cancer patients. We have and will continue to investigate how these cancers are presenting across the state [and nation] and what the best intervention will be to allow the greatest impact in cancer prevention.”

### What Can Physicians Do?

These three studies each separately reached the same conclusions: Thyroid cancer mortality affects African Americans and low SES groups disproportionately and is therefore primarily a problem of level and quality of care rather than of biology or genetics. Each team also urges the same approach to rectifying these disparities: Address the problem at multiple levels of intervention. Patients should be self-aware about their health, and physicians proactive about their care, Hollenbeak says. “We encourage everyone to be aware of their risk of thyroid cancer and to see their doctor if they find an unusual lump or swelling in their neck. Also, we encourage doctors to perform routine screenings that include an examination of the thyroid.”

Harari’s message to clinicians is one of awareness of external factors: “We hope that [our study] will also make physicians who treat thyroid cancer patients more aware of how aggressive this cancer can be in certain racial and socioeconomic groups.”

Finally, policy makers also play a vital role as part of a multilevel intervention strategy such as that touted by Golden’s team. The “you-get-what-you-pay-for” approach to healthcare has proven lethal for African Americans with thyroid cancer, so a new, more equitable approach must be found. “The policy implications of our findings are serious and call attention to issues of quality of care and access to care for the underprivileged,” Harari says.

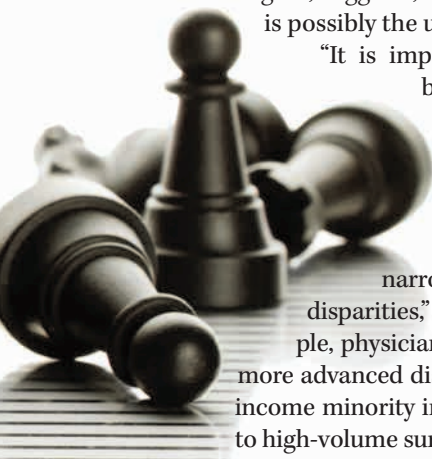
With thyroid cancer incidence increasing faster than that of any other cancer in both men and women, according to the NCI, the problem of equal care correspondingly grows. By broadening insurance coverage as well as focusing on prevention, perhaps the Patient Protection and Affordable Care Act will help bring parity to thyroid cancer detection and treatment for Americans, regardless of race or SES. **EN**

— Horvath is a freelance writer based in Baltimore. She wrote about the high cost of diabetes treatments in the July 2013 issue.

“Although the overall rate of thyroid cancer tends to be lower among African Americans, it appears to be slightly more severe.

We cannot rule out that the increased mortality is due in part to lack of access to care.”

— Christopher S. Hollenbeak, PhD,  
Penn State College of Medicine,  
Hershey, Pa.





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The submissions for non-interventional research, non-clinical research, and from cooperative groups and networks are received and reviewed on an ongoing basis. Submissions for the fellows research program will have one open cycle, commencing in December.

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## Be Prepared

Getting your lab ready for an inspection is a combination of due diligence, best practices, and, of course, common sense.

By **Melissa Mapes**

At least once a year, perhaps when least expected, every lab will encounter the inevitable: an inspection. The unannounced arrival of a designated lab inspector can inspire anxiety in even the most

experienced and diligent managers. If one worker happens to forget his or her safety glasses or walks into the lab with a cup of coffee on the day of inspection, citations will occur — no matter if the error is simply a poorly timed aberration.

Keeping track of the minutia related to lab work can be taxing. Jonathan Moore, MS, CHP, oversees the lab safety inspection program at the University of North Carolina Chapel Hill and faces the arduous task of enforcing compliance within laboratories across the entire campus. He has witnessed many of the things that can go wrong in a lab, so he compiles a list of the top 20 violations every year.

“Everything is based on OSHA [Occupational Safety and Health Administration] regulations, fire codes, safety codes, and guidance documents from agencies like the CDC’s Biosafety in Microbiological and Biomedical Laboratories,” he explains. These long lists of rules can be difficult to remember, but

the most common errors tend to be the most obvious.

### Major Offenders

Laboratories across the country and even the world consistently miss the mark on seemingly basic steps. The problem, Moore says, stems in part from the frequent turnover at labs, but the root of most issues seems to come from the No.1 violation: failing to complete compliance training. He has found it very challenging to obtain universal participation from those who work in labs.

“The training contains the very hazards they will experience in their everyday work,” Moore explains. Total participation is a distant dream for the average lab. Fortunately, the advent of online testing has made it easier to complete the requirement. “We are finally seeing improvement.” Moore’s experience proves that even the best labs must stay vigilant, and increased compliance with training should better the status of inspections overall.

#### Sample Lab

#### CHECKLISTS FROM TOP UNIVERSITIES

- University of North Carolina at Chapel Hill <http://ehs.unc.edu/ih/lab/llp.shtml>
- University of Texas at Austin <http://www.utexas.edu/safety/ehs/lab/labinspection.html>
- Princeton University <http://web.princeton.edu/sites/ehs/labpage/LabSafety.pdf>
- University of California at Los Angeles <http://ehs.ucla.edu/LabSafetyInspectionChecklist.pdf>

Among the other top 20 violations, hazardous waste management, labeling, and chemical storage consistently appear. "We see acids and bases next to each other and flammable materials stored improperly all the time," Moore says. A myriad of less common violations do occur, but generally have a smaller impact on lab performance.

### Check it Out

Most labs are inspected annually, aside from labs involving radiation. Usually, no prior warning is provided to ensure realistic conditions. Moore claims that the best way to prepare for a surprise inspection is to run through a checklist of regulations on at least a monthly basis. His office provides a standard list to the entire university that covers every point of inspection divided up into 18 sections, from documentation to physical hazards.

Signage and labeling is also a recurring theme across the checklist sections. Lab entrance signs with current contracts and emergency numbers, "No food or drink" signs, expiration date labels, properly marked waste bins, and biohazard symbols on the correct containers are a few of the necessary steps to reach compliance. The Globally Harmonized System of Classification and Labeling of Chemicals (GHS) must also be adhered to, which means no chemical formulas or abbreviations on labels.

For truly realistic practice, the person running through the checklist should have training specific to the type of lab they are in. An individual without the necessary expertise might miss the details that a regulatory agency representative is looking for. Interviews with employees should also be conducted to make sure they know the answers to safety questions. Once again, completion of training is crucial to succeed on these exams of a lab.

When a lab inspection is pre-scheduled, labs have the opportunity to make special preparations. The best place to start is with documentation. Reviewing paperwork and files will remind lab managers

of the day-to-day activities of the lab and any notable recent occurrences. Any misfiled documents can be correctly placed, and those who are behind on training can be reminded to catch up with posthaste, as all training must be documented.

### Quality Control

Among the many files that lab managers keep track of, a quality control plan is one of the most crucial. Each laboratory must complete regular checks into the consistency and caliber of its tests. Whenever results seem awry, new chemical lots are introduced, or an instrument undergoes repair, a quality control check should take place.

According to the CDC, a good quality assurance program achieves four central goals: "establishes standard operating procedures (SOPs) for each step of the laboratory testing process, ranging from specimen handling to instrument performance validation; defines administrative requirements, such as mandatory recordkeeping, data evaluation, and internal audits to monitor adherence to SOPs; specifies corrective actions, documentation, and the persons responsible for carrying out corrective actions when problems are identified; and sustains high-quality employee performance."

Attaining these markers requires the mapping and analysis of activity in each area. For clinical tests, patient results should be carefully monitored to ensure precision. A large number of unusual outcomes is a red flag that something is amiss in the testing process. The remaining three goals focus mostly on staff, which reinforces the importance of keeping all employees trained and compliant with rules and regulations. Human error, after all, tends to be the largest contributor to violations. When everyone is thoroughly educated on the quality control plan, mistakes are far less likely and corrections will occur more quickly.

Of course, the best way to prepare for an inspection is to always be prepared. Constant vigilance with

### Top 20 Typical LAB VIOLATIONS

- Documentation of annual training on contents of the Lab Safety Plan not completed
- Annual bloodborne pathogens training not completed
- Emergency eyewashes not tested
- Lab employees do not consistently wear protective apparel (lab coats or jackets)
- Lab safety plan not updated
- Chemical waste is not properly identified
- Chemical waste bottles not contained in a secondary container
- Infectious waste not handled properly
- Improper handling/collection of needles
- Lab safety orientation training not completed
- Improper handling/collection of broken glass and other sharps
- Chemical waste containers not closed
- Eye protective devices are not consistently worn by employees
- Unsupported gas cylinders
- Hazardous material containers improperly labeled
- Incompatible chemicals stored together
- Lack of a laboratory safety plan (LSP)
- Designated BSL-2 laboratory areas are not easily cleanable
- Hazardous chemicals improperly stored
- Chemical hood alarm switched off/not maintained/not operating properly

paperwork, standards, and daily issues is the only way to cultivate a world-class laboratory. As the CDC likes to remind us, the results that come out of medical and research labs influence both policy and everyday clinical decisions. That responsibility alone should provide the necessary motivation to run a well-regulated lab. **EN**

— *Mapes is a freelance writer in Washington D.C. She wrote about obesity and dementia in the February issue.*

## Pen to PAPER

By Kurt Ullman

The noted sportswriter “Red” Smith once noted that writing was easy: “You simply sit down at the typewriter, open your veins, and bleed.” Many view the writing of journal articles as being accomplished in much the same manner. However, following a few tips can make the experience easier and possibly even enjoyable.

“The first step toward creation of material for publication is to find your story,” says Sam Dagogo-Jack, MD, FRCP, a frequent author and currently an editor of the *Journal of Clinical Endocrinology & Metabolism*. “Journals are looking for new stories, but because innovation and fresh ideas are extremely rare, the second path is to find a new twist for an old story.”

It is good discipline for any author to sit down and craft a rough draft of the abstract. Most publications limit abstracts to 200 or 300 words. Committing the salient elements of your story to paper can help focus on what is important.

Also early in the process, the author or authors should decide which publication is their first choice for submission. A mismatch between the contents of the article and the focus or priorities of the journal can lead to rejection and frustration.

### First Steps

“The first step for authors is to become familiar with the content and format of the journal they are submitting to,” says Maggie Hayworth, group managing editor and associate director for the Endocrine Society. “Look around for the best fit — there are plenty of biomedical journals out there looking for good research.”

Study the journal’s table of contents for the last few issues. This highlights not only what kinds of topics

Many physicians and researchers are under the gun to “publish or perish,” but getting your name in print can be made easier by following a few simple steps.

they are interested in, but also those that have been covered recently. The instructions to author’s page and a journal’s mission statement are other areas that give guidance on what kind of article is desired.

When actually sitting down to write the article, keep it concise and direct. At best, a person has five minutes to read a paper. So, don’t put in excess data, take out words that aren’t needed, and get to the point quickly

### “Front Porch” to Your Research

Pay special attention to both the title and the abstract since these are the front porch through which your ideas enter the process from editor to reviewer to reader. They need to highlight the salient points that distinguish your work from those going before, and you have only a few seconds to capture the attention of the reader.

Before submission have others look it over closely. Even obvious things such as proofreading or not presenting the article in the proper format can bias editors and reviewers against your work. After all, if one doesn’t take care in the preparation of the paper, how can others trust the effort that went into the actual research?

“Especially for a new person who is not used to writing papers, the best and most important thing is to have others read it and comment,” says Stephen R. Hammes MD, PhD, chief of the Division of Endocrinology and Metabolism at the University of Rochester in New York state. “Think of it as pre-review. I went to those who knew the field really well, and at least as important, those who I was confident would give it to me straight. These reviews can be very helpful because they almost always

suggest things that I would never have thought of.”

Often there is only one person who actually does the writing. The first step for comments is usually the other researchers on the team. When there are seasoned researchers with publication experience available, this may be all the input needed. In other instances, the writer may want to expand the breadth of expertise used.

### Ready for Submission?

For newer writers, one of the major questions that can be answered by mentors or others is: “Is it ready for submission?”

“I have junior researchers holding on to their publication because they think it isn’t good enough,” notes Hammes. “There is a very fine line here, and those who don’t publish a lot may not always see it. Hanging on too long may mean you end up shooting yourself in the foot, so if those you trust say go for it, listen carefully to what they have to say.”

One thing that even more experienced writers sometimes forget is that there is nothing personal if their work is rejected.

“Rejection should never be taken as a reflection on the person and a cause for discouragement,” says Dagogo-Jack. “Roselyn Yalow and Solomon Berson’s paper on radioimmune assays received many negatives reviews and was published in a journal that wasn’t considered to be top-tier. The work reported in that article was the basis for Dr. Yalow’s Nobel Prize for Medicine or Physiology in 1977.” **EN**

— Ullman, RN, MHA, is an Indiana-based freelance writer with nearly 30 years of experience. He wrote about adding a registered dietician to an endocrinology practice in the February issue.



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- Study 1:** Brazg RL, Klaff L, Parkin C. Performance variability of seven commonly used self-monitoring of blood glucose systems: clinical considerations for patients and providers. *J Diabetes Sci Technol.* 2013;7(1):144-152. **Study 2:** Baumstark A, Pleus S, Schmid C, Link M, Haug C, Freckmann G. Lot-to-lot variability of test strips and accuracy assessment of systems for self-monitoring of blood glucose according to ISO 15197. *J Diabetes Sci Technol.* 2012;6(5):1076-1086. **Study 3:** Freckmann G, Schmid C, Baumstark A, Pleus S, Link M, Haug C. System accuracy evaluation of 43 blood glucose monitoring systems for self-monitoring of blood glucose according to DIN EN ISO 15197. *J Diabetes Sci Technol.* 2012;6(5):1060-1075. Studies funded by grants from Roche Diagnostics.
- Each lot must have  $\geq 95\%$  of individual glucose results within  $\pm 15$  mg/dL at glucose concentrations  $< 100$  mg/dL and within  $\pm 15\%$  at  $\geq 100$  mg/dL.
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## Society Works to Ensure Approvals for Government Employee Attendance at ENDO

By Joseph M. Laakso, PhD

Endocrine Society members include federally employed scientists and clinicians working at government facilities such as the National Institutes of Health (NIH) intramural campus, the Centers for Disease Control and Prevention, and the Department of Veteran's Affairs (VA). Due to efforts to increase efficiency and cost savings across the federal government, agencies have established increasingly onerous restrictions on travel for their employees to conferences such as the Endocrine Society's annual meeting, **ENDO**. These restrictions have resulted in significant delays or outright refusal for approvals to participate in international scientific meetings. The Endocrine Society recognizes the value of government employee participation at **ENDO**, both for government employees themselves as well as attendees in general and is working with federal agencies and advocacy partners to ensure that government employees are given appropriate opportunities to attend scientific conferences.

Recently, for example, the Society submitted testimony to the Senate Homeland Security and Government Affairs Committee (HSGAC), which conducted a hearing to examine the effects of recent restrictions on government employee travel. The focus of the hearing was not necessarily on those agencies that fund biomedical research, but rather on agencies such as the Department of Justice, the Internal Revenue Service, and the General Services Administration. Specifically, attendees were asked to describe their implementation of guidance by the Office of Management and Budget with the goal of reducing spending on travel and conferences. However, the Committee was extremely interested in the impact of travel and conference restrictions on the scientific community to date and how the

biomedical research community will continue to be affected if the restrictions are not modified. In its testimony to the HSGAC, the Endocrine Society strongly opposed current government policies within Executive Order 13589 and the Coburn Amendment #2060 to the Postal Service Reauthorization Bill, which severely restrict travel by federal employees to scientific conferences such as **ENDO**.

The Society's testimony described the challenges that government scientists face as a result of the new restrictions. For instance, the NIH has reduced its travel budget by requiring that intramural Principal Investigators (PIs) participate in a high-profile function, typically interpreted as delivering an invited lecture, as a condition for attending an external conference. Because speakers at **ENDO** generally are not permitted to deliver invited lectures in consecutive years, government PIs may not be able to attend **ENDO** each year. This policy not only disadvantages government scientists, but it also negatively impacts the value of **ENDO** attendance for the broader extramural research community. Program Officers, for example, provide valuable advice on applying for grants; trainees network with government scientists and gather information to make an informed decision on whether or not to join a government lab. All participants learn and exchange information at poster sessions.

In contrast, the VA is piloting a new program to improve the approvals process for Veterans Health Administration employees, potentially impacting clinicians and scientists who attend **ENDO**. As part of the new program, the VA posted a list of conferences for which the anticipated costs to the agency could exceed \$100,000; **ENDO** was not on the list. For these conferences, an appointed "Executive

Champion" would work with an Employee Education System Program Manager to manage the requests and approvals for attendance.

The Endocrine Society consequently reached out to the VA to seek clarification on whether VA employee attendance at **ENDO** would be impacted by the new policy. Staff at the VA indicated that they were dealing with backlogs in identifying an Executive Champion and determining the anticipated costs to the VA for conference attendance at **ENDO**. The VA was uncertain about the status of approvals for **ENDO** attendance. To assist the VA in anticipating the total cost of conference attendance, Society staff shared data on the number of VA attendees at **ENDO** in previous years. The Society hopes these data will demonstrate that **ENDO** will not require the increased scrutiny outlined in the new policy or demonstrate that **ENDO** will require prioritization in efforts to comply with the new policies.

The Endocrine Society recognizes the difficulties faced by government agencies in achieving cost savings in the challenging financial environment. However, the Society consistently expresses strong concern that onerous restrictions on travel are creating excessive challenges for government scientists and clinicians and also resulting in inefficiencies that negatively impact the entire biomedical research enterprise. The Society has shared with policy makers its concerns that these restrictions, if continued, could ultimately delay the development of new or improved therapies for patients. The Society will continue to assist government agencies as they struggle with policies on conference travel. Additionally, the Society will work to raise awareness about the value of government attendance at conferences, including **ENDO**. **EN**

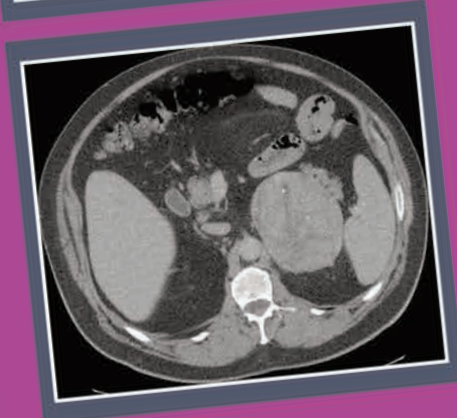
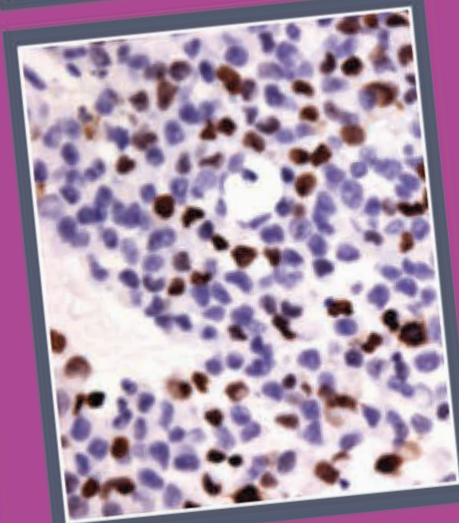
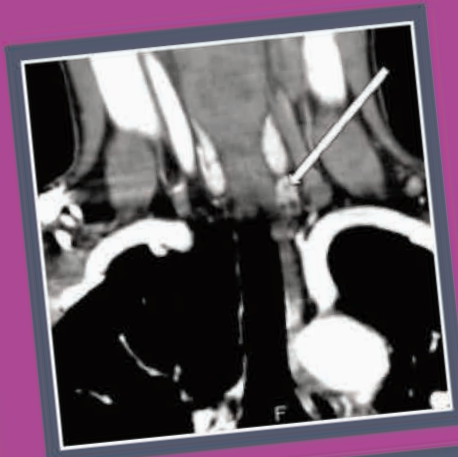
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## Sister Act

The Endocrine Society's Hormone Health Network (HHN) has partnered with the Durham, N.C.-based DiabetesSisters to bring new resources to women, including information and patient guides for women with diabetes who want to start a family or are going through menopause.

DiabetesSisters is a 501(c)3 non-profit set up as a support system for women living with diabetes, founded by Brandy Barnes in January 2008 after her struggle with type 1 diabetes (T1D), as an answer to her own unsuccessful and frustrating searches for support "as a woman with diabetes."

"There was a huge void," Barnes says. "I wished I had a girlfriend I could talk to about diabetes."

Barnes was diagnosed with T1D when she was 15, and her frustration began with her doctors, who were only interested in the numbers, and even made her feel like her high blood sugar levels were her fault. But she says it was when she became pregnant in 2005 that she "felt the absolute loneliest."

"Everything was different for me," she says, and that's when her vision for DiabetesSisters began to take shape and solidify. Barnes says she felt there "should be a way for people to connect," because feeling like you're the only person dealing with this disease can be a "lonely, solitary life."

Now entering its seventh year, DiabetesSisters comprises a website filled with valuable information and interactive features such as the sisterTALK blogs and forums, events such as the Part of DiabetesSisters (PODS) Meetups, Weekend for Women Conferences and Quarterly Gatherings, and SisterMatch, a "matchmaking algorithm helps you find well-matched allies as you make your journey towards thriving with diabetes."

Barnes says that it has taken



Yes, You Can! Diabetes and a Safe Pregnancy. Sheri Barnes, Audrey Moore, and Kelli Turner have a few things in common: They live in the Raleigh, N.C., area, have recently become first-time mothers, and live with diabetes.

a while for DiabetesSisters to build validity, and they "do everything [they] can to incorporate expert advice" on the site and at the events. However, the purpose is really more about facilitating a conversation.

The sisterTALK blog is a simple, useful tool where women can share their own stories about living with diabetes, from struggles to triumphs, where "lurkers" (women who just want to read) can be reassured that they're not alone, that women all over are going through the exact same things.

DiabetesSisters' sisterTALK blog also appealed to the Hormone Health Network at the beginning of this partnership because its positive tone and conversational style served as a guide on how to approach the creation of the HHN's own materials, such as the recently released *Diabetes and Pregnancy Guide*, according to HHN director, Cheretta A. Clerkley.

The lurkers often begin writing blogs themselves and participating in the forums. They then learn about attending the PODS Meetups, group meetings in comfortable places such as homes and churches, where

women meet and discuss diabetes. Barnes says that when PODS Meetups first started in 2010, women were meeting once a quarter in Raleigh, N.C., but then wanted to meet more regularly. Now, PODS Meetups are happening once a month all over the country, blending support and education.

Barnes says that the typical PODS Meetup lasts about two hours. Women begin by talking and socializing, eat healthy snacks, and swapping recipes, and then it's down to business with that month's topic module, during which they discuss another dynamic of life with diabetes.

The most recent topic module was menopause, a natural part of a woman's life, but women with diabetes may experience it differently than their healthy counterparts. For instance, Barnes says, she learned from a session at one of the Weekend for Women Conferences that women with diabetes often start menopause earlier than their peers, as young as 40. "I met a woman who started menopause at 36," Barnes says. Our goal is to make sure that the women

who attend the PODS Meetup Program or the Weekend for Women Conference are provided with all of the information and skills to live happy and healthy with diabetes.

The HHN has begun working with DiabetesSisters in the initial phases of redesigning the network's current Menopause Map, an interactive tool meant for women who are going through menopause or have irregular periods, to be used as a guide for women and their doctors to help map the best treatment options.

One of the HHN's goals is to help involve patients in the development of

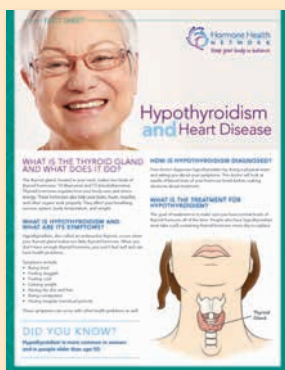
their treatment plans, to incorporate shared decision making into that process, and to build a patient-centered model. The network is partnered with DiabetesSisters on the Diabetes and Pregnancy Patient Guide, and plans to expand the partnership to create additional peer-to-peer support tools, to empower patients.

"The value of being able to connect with other women is really profound," Clerkley says. "We're really looking forward to working with DiabetesSisters on this project."

Barnes says that when she got to college was the first time

an endocrinologist "took the time to help" her with her quality of life, meaning there was a three-year gap from diagnosis to any real support from a healthcare provider. Her doctors before then had even at times been discouraging, once crushing her dream of being an endocrinologist herself by telling her the workload would be too much because of the disease.

"You should never hear you can't do something with diabetes," Barnes says. "Diabetes is just a part of you, and you can do anything that anyone else can do." — *Derek Bagley* **EN**



## New from the Hormone Health Network — **HYPOTHYROIDISM AND HEART DISEASE**

Download the Network's latest resource, Hypothyroidism and Heart Disease, and help your patients learn more about this condition. The fact sheet describes the function of the thyroid gland, defines hypothyroidism, and explains how low levels of thyroid hormone can increase a person's risk of heart disease. Patients are counseled that, while hypothyroidism is a lifelong condition, taking thyroid hormone replacement every day can prevent related health problems such as heart disease. Brief definitions and a list of suggested questions help patients have more informed conversations with their doctors. Visit [www.hormone.org](http://www.hormone.org) to gain access to the patient resources you need.

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## FLARE Workshop a Success

The two-day FLARE Workshop in New Orleans, La., on Feb. 7-8, 2014, was a huge success. Through a mix of engaging lectures, hands-on activities, and thoughtful discussions, faculty equipped 20 promising students and fellows with leadership skills to help them reach the next level in their careers. Participants left the workshop with new peer and mentor connections and the inspiration to keep striving toward their goals. To see a list of these future endocrine leaders and learn more about this exciting program and how you can take part, please visit <http://www.endocrine.org/FLARE>. **EN**

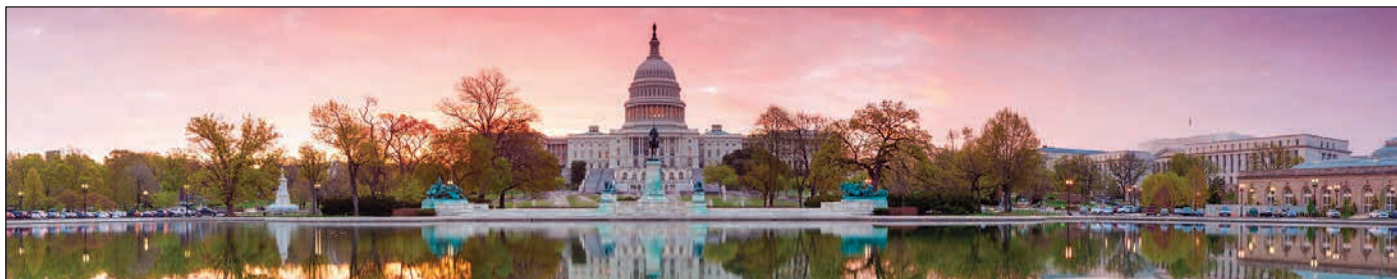
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**APRIL 10-12, 2014, ORLANDO, FLA.**  
American College of Physicians,  
Internal Medicine 2014  
<http://im2014.acponline.org/>

**APRIL 26-30, 2014, SAN DIEGO, CALIF.**  
Experimental Biology 2014  
<http://experimentalbiology.org/2014/Home.aspx>

**MAY 3-7, 2014, WROCLAW, POLAND**  
European Society of Endocrinology  
<http://www.ece2014.org/ese.aspx>

**MAY 3-6, 2014, VANCOUVER,  
BRITISH COLUMBIA, CANADA**  
Pediatric Academic Societies  
<http://www.pas-meeting.org/>



## Congress Continues to Struggle in Finding Permanent Fix to Medicare Physician Payment: Physicians Face 24% Cut if Legislation Not Passed by March 31

For nearly 10 years, Congress has struggled to find a permanent legislative solution to replace the flawed sustainable growth rate (SGR) formula while physicians annually faced potential payment cuts until Congress passed short-term “fixes.” This year, physicians face a 24% pay cut if Congress fails to act by March 31. On Feb. 6, for the first time since the adoption of the flawed formula, Congress put forward bi-partisan, bi-cameral legislation to permanently repeal and replace this system. However, while Congress reached agreement on key principles to reform Medicare physician payment, it did not identify how to pay for this change. With the March deadline quickly approaching, it seems increasingly likely that Congress will only be able to agree to another short-term “patch” to avert the scheduled cut. Meanwhile, legislation extending the debt ceiling limit also included language affecting

Medicare physician payments. The legislation places an excess \$2.3 billion in offset funding from the sequestration cuts into a fund to help pay for a possible Medicare physician payment overhaul or a 10-month patch.

The SGR Repeal and Medicare Provider Payment Modernization Act of 2014, which was introduced in the House and Senate, would permanently repeal the SGR and provide an annual payment update of 0.5% for five years. A merit-based incentive payment system would be established to replace current incentive programs and to evaluate physician performance on quality, resource use, meaningful use of electronic health records, and clinical performance improvement activities. Physicians who perform well would receive an incentive payment; those who did not would receive a negative adjustment. Additional incentive payments would be provided to physicians who

participate in alternative payment models such as the patient-centered medical home.

The Society has long advocated for repeal of the SGR and replacement with stable payments and has provided input to committee staff throughout the various drafts of a new framework by which to compensate physicians for Medicare services. These advocacy efforts include drafting comment letters on proposals and signing on to letters with a broad coalition of support to urge Congress to take action as soon as possible.

The Society will continue to keep its members apprised of new developments. It is critical that members of Congress hear from physicians about the need to avert this year’s cut and to find a permanent solution. Please visit the online advocacy center to share your voice at: <https://www.endocrine.org/advocacy-and-outreach>. **EN**

## Endocrine Society Statement on the Risk of Cardiovascular Events in Men Receiving Testosterone Therapy Available

The Endocrine Society released a statement to the membership and media on Feb. 7, 2014, in response to a recent study published online in PLOS ONE related to the risk of myocardial infarction in men who are receiving testosterone therapy. In the statement, the Society recommended that until evidence from large randomized trials becomes available, patients should be made aware of the potential risk of cardiovascular events in middle-aged and older men who are taking or considering testosterone therapy for age-related decline in

testosterone levels and symptoms. Physicians should also prescribe testosterone in accordance with the Society’s clinical practice guideline on testosterone therapy in men with hypogonadism. **EN**



# LEARN AND ENGAGE: ICE/ENDO 2014 Preconference Programs

Learning starts early at **ICE/ENDO 2014!** Arrive in Chicago a day or more before the world's largest gathering of endocrinologists to join intellectually stimulating, career-enhancing preconference programs, including two new offerings.

## **JUNE 18-20**

### **NEW Endocrine Fellows Series: Type 1 Diabetes (T1D) Program**

For fellows, the T1D Program spans the spectrum of diabetes care, from complications and comorbidities to pathophysiology and patient counseling. Funded by a grant from the Leona M. and Harry B. Helmsley Charitable Trust, the T1D Program is perfect for adult and pediatric endocrine fellows, especially those beginning their fellowship in July. The program is free, but space is limited. Fellows must be nominated by their program directors to attend.

## **JUNE 20**

### **NEW Translational Research Workshop: T1 — From Basic Science to Human Clinical Insights**

Cultural barriers to interdisciplinary research, tenure systems that reward individual rather than collaborative work, complex requirements for working with human subjects—these and other challenges impede the translation of basic scientific discoveries into clinically relevant therapies.

The inaugural Translational Research Workshop aims to empower endocrinologists with knowledge and tools to overcome

such obstacles. Through presentations and interactive sessions, speakers will illuminate organizational and infrastructure requirements, partnership strategies, and funding sources from academic, government, and industry perspectives. (Separate registration fee required.)

### **Diabetes Diagnosis and Management Workshop**

This popular full-day workshop is led by world-renowned faculty and focuses on the latest issues and advanced practice challenges in clinical diabetes management. Attendees engage in case discussions, interact directly with leading researchers and master clinicians, and learn the most up-to-date treatment information — earning CME credits in the process. (Nominal registration fee required.)

### **Thyroid Workshops**

Clinicians get a truly interactive educational experience at the introductory and advanced thyroid workshops, which combine didactic lectures with hands-on simulations.

The introductory workshop will guide participants in the use of ultrasound to diagnose thyroid nodules and how to perform ultrasound-guided fine-needle aspiration. The advanced workshop will introduce ultrasound techniques for examining cervical lymph nodes and parathyroid adenomas and for diagnosing patients with thyroid cancer and hyperparathy-



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roidism. Attendees will also learn about cytology. (Separate registration fee required.)

### **EndoCareers® Early Career Forum**

Fellows, students, and mid-career professionals alike will find valuable opportunities to get career advice from some of the field's most successful scientists and clinicians. Forum attendees will gain new perspectives on career options while exploring a variety of topics, including work-life balance and advances in translational research and practice management. Experts will help attendees cultivate strategies to navigate the rigors of a career in endocrinology and discover the most beneficial approaches to interviews, seminars, publishing, and more.

### **Registration Information**

Registration will be waived for travel award recipients. For individuals who do not receive a travel award, a registration fee of \$125 will apply. **EN**

## **RESERVE YOUR SPOT NOW**

**Why wait? Register now  
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If you are interested in submitting classified advertising to *Endocrine News*, please contact Christine Whorton at [endocareers@endocrine.org](mailto:endocareers@endocrine.org) or 800-361-3906.

## Endocrinologist Opportunities

**Geisinger Health System (GHS) is seeking Endocrinologists for three locations:**

- **Geisinger Medical Center (GMC), Danville, Pa.**
- **Geisinger Wyoming Valley Medical Center (GWV), Wilkes-Barre, Pa.**
- **Geisinger-Patton Forrest, State College, Pa.**

### About the Position at GMC

- Join a team of 4 Endocrinologists, 1 Nurse Practitioners and 2 Certified Diabetes Educators in 100% Subspecialty Endocrinology Clinical Practice.
- Work collaboratively with Geisinger's community practice network to enhance diabetes care, as well as to work with multiple subspecialties to enhance inpatient care.
- Opportunities for clinical practice include serving as investigator on diabetes clinical trials, US-guided Thyroid Fine Needle Aspiration Biopsies and Continuous Glucose Sensors interpretation
- Engage in clinical mentoring and educational programs for medical students on the GMC campus, as well as internal medicine residents on rotation at GMC

### About the Position at GWV

- Join a team of 3 Endocrinologists, 2 Nurse Practitioners and 3 Certified Diabetes Educators, and is positioned for additional growth
- Work collaboratively with Geisinger's community practice network to enhance diabetes care, as well as to work with multiple subspecialties to enhance inpatient care
- Opportunities for clinical practice include serving as investigator on diabetes clinical trials, US-guided Thyroid Fine Needle Aspiration Biopsies, Continuous Glucose Sensors and Bone Density interpretation
- Engage in clinical mentoring and educational programs for medical students and family medicine residents on the GWV campus, as well as internal medicine residents on rotation at GWV

### About the Position at Geisinger-Patton Forrest

- Join a growing endocrinology department in a thriving, multi-specialty group practice, located in a progressive university town
- Provide 100% endocrinology subspecialty outpatient care and inpatient consultations
- Provide consultative care at Mt. Nittany Medical Center, State College, Pa., and Lewistown Hospital, Lewistown, Pa.

**Geisinger Health System** serves nearly 3 million people in Northeastern and Central Pennsylvania and has been nationally recognized for innovative practices and quality care. A mature electronic health record connects a comprehensive network of 5 hospitals, 43 community practice sites and more than 900 Geisinger primary and specialty care physicians.

**Discover for yourself why Geisinger has been nationally recognized as a visionary model of integrated healthcare. For more information, please visit [Join-Geisinger.org](http://Join-Geisinger.org) or contact: John W. Kennedy, MD, Endocrinology Department Director, Geisinger Health System c/o Kathy Kardisco, Department of Professional Staffing, at 1-800-845-7112 or [kkardisco@geisinger.edu](mailto:kkardisco@geisinger.edu).**

# GEISINGER

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# Diabetes and Pregnancy

## A PATIENT'S GUIDE

Most women with diabetes can have a safe pregnancy and delivery if they have tight blood sugar (glucose) control before becoming pregnant. However, blood sugar that is not well controlled can lead to health problems for the expectant mother and her baby.

It is important that women with type 1 or type 2 diabetes receive good health care both before and throughout pregnancy. Regular visits to a diabetes specialist will help these women achieve and maintain good blood sugar control, let their doctor find and treat any problems before becoming pregnant, and learn how to prevent pregnancy complications.

Women with gestational diabetes also need special care during pregnancy. This is a temporary type of diabetes that can occur during pregnancy.

This guide for patients comes from The Endocrine Society's 2013 clinical practice guidelines for physicians about the care of pregnant women with diabetes: type 1, type 2, and gestational.

### What problems can occur in pregnant women whose diabetes is not well controlled?

High blood sugar can harm your unborn baby. Pregnant women with high blood sugar are more likely to:

- Have a baby with birth defects, if blood sugar is not in control during the first two months of pregnancy
- Have a miscarriage or a stillborn baby
- Develop high blood pressure and too much protein in the urine, a condition called preeclampsia
- Give birth too early—have a premature baby
- Need a C-section (cesarean delivery) or have a difficult delivery, because high blood sugar can cause the baby to grow too large in the womb

Tight blood sugar control can help you avoid these problems.

### How should you plan for pregnancy if you have diabetes?

If you have diabetes and want to have a baby, get a checkup before becoming pregnant. Ideally, your partner should join you, and you should see a team of health

care providers that includes your diabetes specialist, a diabetes educator, a dietitian, and an obstetrician.

At this visit, the health care team will counsel you on what your target blood sugar range should be, as well as your hemoglobin A1C. Sometimes called A1C, this test shows your average blood sugar levels over the past few months. The care providers also will discuss whether you should change your diabetes treatment. If you receive insulin therapy, it is best to use an insulin pump or multiple daily injections of insulin. Pre-mixed insulin is less likely to help you maintain your target blood sugar range. This type of insulin is a mix of a mealtime (bolus) insulin and an intermediate-acting insulin.



You also will learn what you should do before pregnancy to have the best chance for a healthy baby. Experts recommend the following:

- **Take a daily folic acid supplement.** This vitamin helps lower the risk for having a baby with birth defects of the brain and spinal cord, such as spina bifida. Take a dose of 5 milligrams (mg) a day (or whatever your doctor advises) starting three months before you try to get pregnant.
- **Get an eye exam.** See an eye doctor to find out if you have diabetic eye disease (retinopathy). If you do, your doctor may want you to get treatment before you try to conceive because this eye disease can get worse during pregnancy.
- **Control your blood pressure.** Your blood pressure should be normal or close to it—below 130/80 mm Hg (said as “130 over 80”).
- **Lose weight if you are overweight.** Being obese or overweight raises the chance of problems during pregnancy.
- **Ask your doctor if you should stop taking any of your medicine or change to a different medicine.** Certain

medications may not be safe for an unborn baby.

These include

- Blood pressure-lowering drugs called ACE inhibitors or ARBs
- Statins to lower high cholesterol

If you have type 1 diabetes, you should have a thyroid function test. Type 1 diabetes increases the risk for an underactive thyroid (hypothyroidism) or an overactive thyroid (hyperthyroidism). Thyroid disease may affect your baby's growth and brain development. Untreated hyperthyroidism raises the chance of having a miscarriage or a premature baby.

Another concern is that pregnancy stresses your heart, and diabetes raises the risk for heart disease. If you have risk factors for heart disease—especially older age or long duration of diabetes—your doctor may want you to have a screening test for blocked arteries of the heart. This type of heart disease may need treatment before you can consider pregnancy.

If you have had gestational diabetes in a previous pregnancy, you should be tested for diabetes before becoming pregnant again. Women with a history of gestational diabetes have a 35 to 60 percent chance of developing diabetes in the next 10 to 20 years.

## What care do you need during pregnancy?

**Blood glucose.** While pregnant, you will probably need to check your blood sugar more often than before pregnancy. Check your blood sugar as often as your doctor recommends. You should probably test it before meals, one or two hours after a meal, at bedtime, and during the night.

Ask your doctor what your blood glucose numbers should be. Most pregnant women with diabetes should aim for these blood sugar levels as long as they do not cause low blood sugar:

- Before meals (fasting blood glucose): 90 mg/dL or less
- One hour after the start of a meal: 140 mg/dL or less
- Two hours after the start of a meal: 120 mg/dL or less

**Insulin.** If you were already using an insulin pump before pregnancy, you should keep using it. You probably should not start using an insulin pump for the first time during pregnancy. But if other types of insulin treatment do not control your blood sugar, your doctor may want you to switch to an insulin pump, even though you are pregnant.

**Medical nutrition therapy.** You should see a dietitian for nutrition therapy. This healthy eating plan, tailored to you, helps make sure you get the nutrients you need and gain the right amount of weight, while controlling your blood sugar. The dietitian may suggest you limit the amount of carbohydrates, or “carbs” (for instance, potatoes, bread, and fruit), that you eat. It is a good idea to eat three small meals and two to four snacks a day. Your dietitian also will advise how often to eat and how many calories to eat a day.

**Vitamins.** Your doctor likely will decrease the dose of folic acid you take once you finish your first trimester of pregnancy (week 12). Most often, the recommended dose of folic acid is 0.4 mg (400 micrograms) to 1 mg per day through the rest of pregnancy and until you stop breastfeeding. Ask your doctor what other prenatal vitamins you need.

## Will you be able to breastfeed?

Women with diabetes are encouraged to breastfeed their baby. Breastfeeding lowers your baby's risk for childhood obesity and for type 2 diabetes later in life. Women with gestational diabetes have an increased risk of developing type 2 diabetes; breastfeeding seems to lower that risk. It also may help you lose the weight you gained during pregnancy!

Insulin is safe for breastfeeding women. If you take metformin or glyburide pills to treat type 2 diabetes, you can safely continue taking these medications while breastfeeding.

## What can you do to help have a healthy baby?

You can help ensure your baby's health and your own health. Work with your obstetrician and your diabetes specialist to receive proper medical care before, during, and after pregnancy. Take your diabetes medicine as prescribed and keep your blood sugar in control. Follow the healthy eating plan that you made with your health care team. Also, be physically active. Ask your doctor what type of activity is best for you.

## RESOURCE FOR PEER SUPPORT DURING PREGNANCY

Diabetes Sisters, a non-profit organization:  
[diabetessisters.org](http://diabetessisters.org)

## EDITORS

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Note to health care professionals: This patient guide is based on, and is intended to be used in conjunction with, The Endocrine Society's clinical practice guidelines (available at [www.endocrine.org/endocrine-press/clinical-practice-guidelines](http://www.endocrine.org/endocrine-press/clinical-practice-guidelines)).



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T1—From Basic Science to Human Clinical Insights

### 2014 American Thyroid Association (ATA) Guidelines on Thyroid Nodules and Differentiated Thyroid Cancer

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