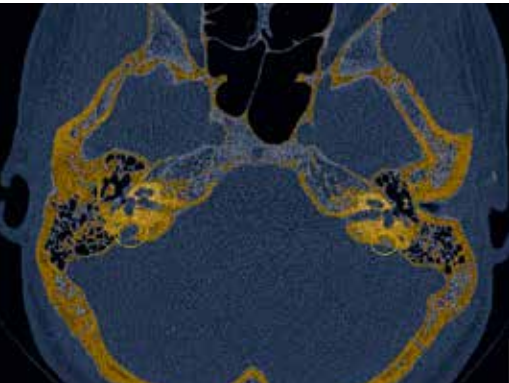


# INNOVATIONS IN PEDIATRICS



**3**  
Demystifying  
Enlarged Vestibular  
Aqueduct Syndrome



**4 – 5**  
Prioritizing Policy



**6**  
Getting Dads  
on Board

# FITNESS THROUGH FAMILY

New research suggests improving family interactions may play a role in reducing obesity among children and teens

There's no shortage of programs and proposals to address the rising rates of overweight and obesity among American children and teens. Although many have had limited results, new research suggests a potential way to boost success. The intervention? Targeting the dynamics of the child's family environment.

Carolyn E. Ievers-Landis, PhD, a child psychologist at University Hospitals Rainbow Babies & Children's Hospital, and colleagues studied 108 adolescents enrolled in a multidisciplinary pediatric weight management program, exploring how self-efficacy, self-esteem and family relationship dynamics related to participants' overall fitness level. They found that family factors such as cohesion, expressiveness and conflict played an important role in the variables associated with overall health. The group recently published its results in the journal *Childhood Obesity*.

"What's important about these findings is that they show that how families function affects children's health," Dr. Ievers-Landis says. "How well families can work together, communicate and work through problems relates closely to health behaviors, especially for children who are overweight or obese."

The research team found that self-esteem and self-efficacy – kids' belief that

they can overcome barriers to being physically active – were strongly associated with the dynamics of their families. Higher scores on family conflict were associated with both lower self-esteem and lower self-efficacy among children and teens. At the same time, higher family cohesion and expressiveness were related to greater self-efficacy and physical fitness.

For Dr. Ievers-Landis, this makes good sense.

"If you have a family that works together, communicates and deals with conflict, then when there is a barrier to exercise, kids are better able to overcome it," she says. "Having a family that functions well also affects how kids feel about themselves. That translates into them taking care of themselves and being able to go the extra mile."

According to Dr. Ievers-Landis, an increasing number of weight loss programs for kids and teens are taking a "family therapy" type of approach. With her group's and other recent research findings confirming the importance of family dynamics, she says she expects the trend to continue.

"We've always had parents involved in our weight loss programs for kids and teens, but more from the perspective

of supporting their kids and serving as good role models," she says. "But now we're looking at how the family functions. We've done this with kids with depression and anxiety, but it also might make sense for families of children who are overweight or obese. It's been so hard to find something to help these kids, but interventions using clinical therapy frameworks like Behavioral Family Systems Therapy (BFST) that teach positive communication strategies and give practice in problem-solving may help ensure that the family is working together as optimally as possible to help their child who is overweight or obese."

For more information on this study, email [Peds.Innovations@UHhospitals.org](mailto:Peds.Innovations@UHhospitals.org).



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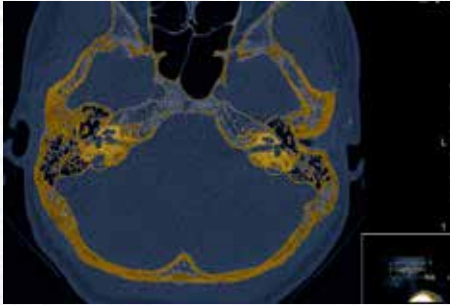




# DEMISTIFYING

## Enlarged Vestibular Aqueduct Syndrome

New national EVA patient registry will clarify prognosis, identify risk factors for EVA-related hearing loss



This CT scan shows a patient with an enlarged vestibular aqueduct (EVA) within the right inner ear (left on this image). Note the difference in size of the enlarged vestibular aqueduct circled in yellow on the left of the image, as compared with the normal vestibular aqueduct on the right.

It's a clinical conundrum: An enlarged vestibular aqueduct (EVA) is the most common inner ear malformation linked to sensorineural hearing loss in children. Yet pediatric otolaryngologists know relatively little about how and why EVA syndrome progresses to hearing loss – and which interventions might stop the process. Some patients develop profound hearing loss, while others do not – a difference seemingly unrelated to the size of the EVA.

“Much of what is known about EVA syndrome comes from small studies of fewer than 100 people,” says Todd Otteson, MD, MPH, Division Chief of Pediatric Otolaryngology at University Hospitals Rainbow Babies & Children's Hospital. “Because of this, there's a lack of reliable information we can give patients and families about how much hearing loss will occur and how it will – or will not – progress.”

To further complicate things, there's also controversy about events that may exacerbate the progression of EVA-

related hearing loss. Although some studies point to minor head trauma as an exacerbating factor, others have found no association.

At UH Rainbow Babies & Children's Hospital, Dr. Otteson and otolaryngology colleagues from the UH Ear, Nose & Throat Institute are working to shed light on this problem with a new, national EVA patient registry. Parents of children diagnosed with EVA are invited to complete a detailed online questionnaire featuring several open-ended questions that encourage them to describe their child's experiences.

Items cover when and how the child was diagnosed with hearing loss, if and how the loss has progressed, and whether the child has received any treatment for EVA-related hearing loss, such as steroids. Also included are questions on any family history of hearing loss or EVA syndrome and the child's history of airplane flights, head trauma, vertigo symptoms and use of assistive services or devices, such as speech therapy, hearing aids or cochlear implants. Parents can also upload hearing test results and CT and MRI scans directly to the site.

“This registry will help address fundamental questions regarding EVA, such as radiological definition, the safety of pressure changes that accompany airplanes or swimming, the expected progression of hearing loss over time and the correlation of hearing loss to vestibular width,” Dr. Otteson says.

“Such questions remain controversial, and this large, centralized repository

of patient information will advance our current understanding.”

Dr. Otteson and his otolaryngology colleagues at the UH Ear, Nose & Throat Institute plan to make the EVA patient registry data available to otolaryngology researchers at other institutions who present study proposals approved by their institutional review boards (IRBs).

“This is one of those areas where collaboration is vital,” he says.

“By collecting this data from patients across the U.S., we hope to identify those events and modifiable risk factors that can be monitored, with the goal of slowing or stopping the progression of EVA-related hearing loss.”

To learn more about the UH Rainbow Babies & Children's EVA patient registry, go to [Rainbow.org/EVAREsearch](http://Rainbow.org/EVAREsearch) or [ClinicalTrials.gov/show/NCT02798783](http://ClinicalTrials.gov/show/NCT02798783), or email [Todd.Otteson@UHhospitals.org](mailto:Todd.Otteson@UHhospitals.org) or EVA Project Manager [Mustafa.Ascha@UHhospitals.org](mailto:Mustafa.Ascha@UHhospitals.org).



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# Prioritizing POLICY

**Center for Child Health & Policy at UH Rainbow Babies & Children's Hospital promotes an ambitious agenda** The Center for Child Health & Policy at University Hospitals

Rainbow Babies & Children's Hospital has a broad yet singular focus: to improve children's health through better-informed local, state and national policy. On any given day, you'll find its affiliated faculty and nine full-time staff working on a variety of projects, from strategies to reduce childhood obesity to quality measures for evaluating pediatric care, to mentoring programs training the next generation of pediatric clinicians – especially those who will treat disadvantaged children.

The organizational chart is complicated. The Center for Child Health & Policy has strong ties to Case Western Reserve University School of Medicine, with collaborators ranging from the New York State Department of Health to the Great Lakes Science Center. Funders include the Agency for Healthcare Research and Quality (AHRQ), the National Institutes of Health (NIH) and the State of Ohio Medicaid Technical Assistance and Policy Program (MEDTAPP), among others.

Pediatrician Lawrence Kleinman, MD, MPH, FAAP, the Center for Child Health & Policy's new director, arrived in Cleveland last July.

**"The Center for Child Health & Policy serves as the home for health services and health policy research for the School of Medicine's Department of Pediatrics, while serving as a primary source of program and policy evaluation for UH Rainbow Babies & Children's Hospital and UH MacDonalD Women's Hospital," he says. "We're committed to better health for all children, through the generation, interpretation and implementation of evidence."**

Now in its ninth year, the Center for Child Health & Policy focuses on research, advocacy and education on conditions influencing children's health. Areas of focus include social risk, obesity, diabetes, infant mortality, asthma and mental health disorders. It is engaged on these topics in Cleveland, Northeast Ohio, the state of Ohio and the nation, taking a multifaceted approach that considers population and public health, effective high-quality health care, and maternal-child, family and community health, all through a lens that promotes health equity for children.

One foundational center project demonstrated the power of implementing practice coaching to improve the quality of pediatric care provided by Northeast Ohio primary care clinicians. This approach was adapted for pediatric care by the center's first director, the late Leona Cuttler, MD. Dr. Kleinman looks to build on this work in his new role with the center.

"This is an exciting place for me to be," he says. "UH Rainbow Babies & Children's Hospital and Case Western Reserve University have a strong commitment to this work. I also get to build on foundations established by Dr. Cuttler. Her work and the team she has assembled are part of her special legacy."

Dr. Kleinman joins UH Rainbow Babies & Children's Hospital from Icahn School of Medicine at Mount Sinai in New York City, where he was Vice Chair for Research and Education in the Department of Population Health Science & Policy. He brings with him a nearly \$8 million project funded by AHRQ to develop some of the pediatric quality measures called for in the 2009 Children's Health Insurance Program Reauthorization Act (CHIPRA). As leaders of one of seven national Pediatric Quality Measures Program (PQMP) Centers of Excellence,



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Dr. Kleinman and his team have worked with more than 60 people from 10 partner organizations to define what quality care looks like for asthma, the follow-up after mental health admissions, pediatric medication reconciliation, inpatient perinatal care and the availability of high-risk obstetrical care.

“Current approaches to measuring pediatric care are not sufficient,” he says. “As a rule, they are difficult to make comparable for different populations of children or across states, providers and health care plans. Such lack of measurement lowers the overall quality of care received by children in the United States. Standardized measurements are essential for ensuring high-quality and equitable health care. For example, in terms of medication reconciliation, do you distribute a medication list to each patient? When do you do it? Do you have systems that communicate? We’ve developed an interesting survey that addresses that at the site level.”

**One prominent, long-standing project of the Center for Child Health & Policy at UH Rainbow Babies & Children's Hospital is the Childhood Obesity Prevention and Treatment Research (COPTR) program, launched at four centers nationwide in 2010 by the NIH's National Heart, Lung and Blood Institute (NHLBI). Currently led by Elaine Borawski, PhD, and Shirley Moore, RN, PhD, from Case Western Reserve University, the project is gauging the effectiveness of different weight loss interventions among 360 Cleveland middle schoolers and their parents.**

This project is a good example of what is possible through collaboration, Dr. Kleinman says.

“Our goal is to do well for kids,” he says. “Sometimes we are just the people to do that, but sometimes we know who the other people are. By working together, we can create a much greater product and project.”

The center has also played an important role in supporting CaseCAN, a project aimed at shoring up the clinical workforce treating disadvantaged children. Originating at Case Western Reserve University and funded by MEDTAPP's Healthcare Access Initiative, the program provides structured educational

programming, experiential learning and mentored support to residents, fellows and faculty. After three grants from the state, the project has now expanded to include training in how to provide optimal behavioral health care for children, especially when prescribing and managing psychotropic drugs. The center is providing this training to pediatric clinicians at UH Rainbow Babies & Children's Hospital, as well as its cross-town collaborator, MetroHealth. Participants attend a three-day training session and then communicate by phone with their mentors for six months, reviewing cases and earning CME credit.

“It's imperative to primary care providers to manage these medications safely in their practices,” Dr. Kleinman says. “This training accomplishes that. These are not everyday skills.”

A new project for the Center for Child Health & Policy is a collaboration with Nationwide Children's Hospital to address Ohio's stubbornly high infant mortality rate. This effort, also funded through MEDTAPP, aims to pinpoint which interventions have the greatest likelihood of success – and when they should occur.

“We're looking to identify different times along the course of a pregnancy,” Dr. Kleinman says. “What can we pick up that suggests this person is high risk? What are the combinations that may not be recognized?”

“The problems we face in children's health are large, but we try to look internally and externally, at the city, the state and the world,” he adds. “Our center doesn't fit into a normal bucket, but it also creates a lot of opportunities. We can support the hospital in ways that otherwise might not be possible. We can fill that gap. We are dreamers, but we're also doers.”

For more information about the Center for Child Health & Policy at UH Rainbow Babies & Children's Hospital, email [Peds.Innovations@UHHospitals.org](mailto:Peds.Innovations@UHHospitals.org).

# Getting Dads on Board



## Innovative program engages inner-city fathers in breastfeeding support

The benefits of breastfeeding are well-established, for the infant, mother, family and society at large. However, for many high-risk, inner-city mothers, challenges and lack of support interfere with making the choice to breastfeed. In Cleveland, for example, only about 11 percent of new mothers receiving WIC benefits report breastfeeding their infants.

Now, however, a coalition of Cleveland medical and nonprofit leaders has discovered an approach that may move the needle on this issue. They've found that they can successfully recruit and engage inner-city fathers to support breastfeeding through peer-led education sessions in the community.

The breastfeeding curriculum is based on Breast for Success, developed by Lydia Furman, MD, a pediatrician at University Hospitals Rainbow Babies & Children's Hospital, in collaboration with the Cleveland Department of Public Health's MomsFirst Program, with funding from the Mt. Sinai Health Care Foundation and the American Academy of Pediatrics. But there's a twist. Her partner at the Healthy Fathering Collaborative of Cleveland's Community Endeavor Foundation, Steve Killpack, has conducted focus groups and has revised the curriculum to be more "father-friendly." The team also includes Rev. Dr. Brian Moore of the faith-based organization Passages, Inc., who delivers the curriculum to fathers at community meetings.

"This project is a combination of respect for the individual and recognizing that breastfeeding support occurs in the context of being a parent and being a partner," Dr. Furman says.

"Men are not necessarily comfortable seeking health care," adds Killpack. "We're not health seekers; we're not always comfortable in rooms with doctors. We try to meet men where they are, where they feel respected, trusting and comfortable."

Results show that the approach works. Of the 66 fathers recruited from nonprofit groups and through clients of MomsFirst, nearly half attended all three weekly breastfeeding education sessions. In addition, 85 percent were more likely

to want their next baby to be breastfed. The group published the results of its feasibility study recently in the journal *Breastfeeding Medicine*.

"There were a lot of myths and misinformation out there about breastfeeding, and over a couple of hours, we were able to tell them about the benefits of breastfeeding and give them talking points to share with their parenting partners," Dr. Moore says.

For Dr. Furman, one of the most important aspects of the project is making father-friendly adjustments to the curriculum.

"Some of the changes might be very simple, such as creating a handout that can fit in a man's wallet instead of a woman's purse," she says. "The language is important, too. It has to address the reader. That may seem trivial, but if it's not done, the man will feel it's not intended for him."

Dr. Moore is currently using the father-friendly Breast for Success curriculum as part of a five-year federal grant on responsible fatherhood. His group, Passages, is targeting fathers of any age who have a child under age 1, with the goal of helping them understand the principles and benefits of breastfeeding.

The curriculum is also being used to train community health workers involved in Ohio's Infant Mortality Reduction Initiative. Plus, it's being used to revise somewhat-dated childbirth education curricula for fathers.

"Many of these programs were written 20 years ago, when the benefits of breastfeeding weren't as well known," Killpack says. "So we're revising that."

The father-friendly Breast for Success curriculum is free for anyone to use, as is the entire curriculum. Please visit [UHhospitals.org/Macdonald/Health-and-Wellness/Pregnancy-Resources/Lactation-Services/Breast-for-Success/For-Fathers](http://UHhospitals.org/Macdonald/Health-and-Wellness/Pregnancy-Resources/Lactation-Services/Breast-for-Success/For-Fathers).



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# Dangerous Disparity



First-of-its-kind study documents gender differences in cancer treatment toxicity in children, suggesting new avenue for research



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Among children and teens with cancer, there are gender-based differences in incidence, survival and long-term outcomes. Girls tend to have a lower incidence of cancer and increased survival, when compared with boys. But girls also appear to be at increased risk of treatment-related late effects. Research has also found gender-based differences in the toxicity of certain pharmaceuticals, with women experiencing significantly more adverse events than do men. However, there's been relatively little work done on this issue addressing children and teens with cancer.

"There's limited information about how treatment-related toxicities during active treatment differ for male and female patients," says Yousif (Joe) Matlou, MD, who holds the Angie Fowler Chair in Adolescent & Young Adult Oncology at University Hospitals Rainbow Babies & Children's Hospital. "Some articles show differences, others don't, so we wanted to find out for sure. Is this a reality, or is it something just based on studies with small numbers?"

To find an answer, Dr. Matlou and colleagues with the Children's Oncology Group analyzed data from two large groups of pediatric cancer patients – those treated for acute lymphoblastic leukemia (ALL) according to the high-risk CCG-1961 protocol, and those treated according to the standard-risk CCG-1991 protocol, which Dr. Matlou chaired. The first group included just over 2,000 patients, the second, just over 3,000.

"The strength of the study was that the populations were uniform – all had same disease criteria and same protocol," Dr. Matlou says. "Because we weren't comparing apples and oranges, we could look at the sex subgroups within those populations."

**Results show that girls were more vulnerable to cancer therapy than were boys. Girls had significantly longer hospital stays, more toxicity-related delays in therapy and more transfusions and other supportive care interventions, when compared with boys.**

Also, girls treated on the high-risk protocol were significantly more likely to die of treatment-related causes. The researchers published their findings in the journal *Pediatric Blood Cancer*. The article was also highlighted recently by the American Society of Pediatric Hematology and Oncology.

For Dr. Matlou, these new findings suggest that for some chemotherapy agents, there may need to be modifications in the method of calculating doses, considering the sex of the patient.

"Dosing is based primarily on body surface area, without regard to the patient's sex," he says. "This is based on the belief that body surface area standardizes hepatic and renal functions and drug metabolism. But there are obviously other factors that play a role in drug metabolism and elimination, such as fat distribution, hormonal milieu and metabolic pathways. These factors need to be investigated in order to better understand their impact on drug handling by the body."

**"We know these findings will spearhead other investigations, especially with a collaboration like the Children's Oncology Group," he adds. "Now that we know that these disparities are real, it's very important to understand why they're happening. With very favorable results in children with ALL on current treatment regimens, we may be able to decrease the intensity of therapy. Our aim is to maintain these outcomes while decreasing the short- and long-term side effects."**

For more information on this study or to refer a patient to the Angie Fowler Adolescent & Young Adult Cancer Institute at UH Rainbow Babies & Children's Hospital, email [Peds.Innovations@UHhospitals.org](mailto:Peds.Innovations@UHhospitals.org) or call 216-844-4435.

Dr. Matlou's participation in this research was funded, in part, by a grant from the National Cancer Institute to Case Western Reserve University School of Medicine.

## When Social Needs Are Health Needs New Health Leads services at UH connect patients to needed resources

Meeting patients' social needs is increasingly recognized as an essential part of improving their overall health. In recognition of this important trend, University Hospitals is teaming up with the group Health Leads to connect patients with local resources that can improve their health and meet their needs, including food, utilities, transportation and insurance benefits.

The initial phase of the multiyear collaboration includes in-clinic social needs services in the pediatric and women's health clinics at UH Rainbow Babies & Children's Hospital and UH MacDonald Women's Hospital. Using Health Leads tools, technology and on-site direct services, the UH clinics connect patients to local resources as a standard part of providing the highest-quality care.

"Without a doubt, health care providers today will be more effective and truer to our missions if we can better understand and address the nonmedical factors impacting the lives and health of our patients," says Patti DePompei, RN, MSN, President of UH Rainbow Babies & Children's Hospital and UH MacDonald Women's Hospital. "Our strategic alliance with Health Leads gives us not only the tools and insights to deliver a comprehensive social needs program, but also the leadership and innovation to continually strengthen our commitment to keep our communities healthy."

A dedicated social needs team – including a program manager and 20 to 25 student advocates from Case Western Reserve University and other local universities – will work closely with patients to identify needs, make connections to resources in their area and conduct follow up.

UH and Health Leads are hopeful that this initial program will lay the groundwork for the potential integration of a social needs strategy institution-wide, with a goal to innovate around initiatives such as technology and tools, program evaluation, clinician and staff education, and new models of social needs service delivery.

For UH Rainbow Babies & Children's Hospital and UH MacDonald Women's Hospital, the Health Leads partnership is an extension of their ongoing investment in new services and programs designed with a focus on prevention, total health and wellness including Healthy Harvest, Centering Pregnancy and the UH Rainbow Babies and Children's Hospital dental clinic. The hospitals are preparing for the groundbreaking of a new health center, UH Rainbow Center for Women & Children, in Cleveland's Midtown neighborhood.

For more information about the UH-Health Leads collaboration, email [Peds.Innovations@UHhospitals.org](mailto:Peds.Innovations@UHhospitals.org).



In 2016, UH Rainbow Babies & Children's Hospital again ranked as one of America's Best Children's Hospitals in all ten pediatric specialties, including #4 in neonatology, #8 in pulmonology, #17 in oncology and #18 in orthopedics.

Learn more at [Rainbow.org/USNews](http://Rainbow.org/USNews).

### Innovations in Pediatrics Summer 2016

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