Flu shots much more effective than mist in recent years

By Helen Adams
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As South Carolina copes with widespread flu activity, a report finds flu shots were much better at hitting their target in recent years than the nasal spray vaccine. The meta-analysis appears in the journal Pediatrics, a publication of the American Academy of Pediatrics.

MUSC Children’s Health critical care specialist Elizabeth Mack, M.D., serves as a spokeswoman for the AAP. “If you look at overall effectiveness in the report, which complied the results of five studies over the past five years, the efficacy of the shot against all virus strains of influenza was 51 percent, whereas the effectiveness of the FluMist was only 26 percent. Someone who had the FluMist was twice as likely to get the flu as someone who had the flu shot.”

That may seem jarring to some parents. At the start of the current flu season, the AAP made news for including the nasal spray in its recommendations after leaving it off for a couple of years because it wasn’t considered effective enough.

The hope was—and is—that the manufacturer figured out and addressed problems with the mist. The company successfully made its case to health care experts.

Whether it was correct won’t be clear until researchers can look at the results of this flu season. But Mack points out that FluMist is still only recommended for people who refuse to get a flu shot or can’t get one for some reason. “It may be better than nothing.”

And the importance of having some protection against the flu is once again becoming clear. The latest data from the South Carolina Department of Health and Environmental Control show rising flu activity for most of the state, including the Lowcountry.

“Here at MUSC Health, we’ve seen influenza this season,” Mack said. “For the last five years, children under the age of 5 have been one of the highest risk groups for complications requiring hospitalization.”

Those complications can be severe. “Respiratory failure, secondary bacterial pneumonia, encephalitis, which is inflammation of the central nervous system. They can develop altered mental status, seizures, they can also develop myocarditis,” Mack said. “Patients can require full life support. We do see deaths related to flu and a variety of complications.”

And the flu isn’t the only virus around this winter. “December and January have already been very bad months for a couple of other viruses, particularly respiratory syncytial virus (RSV), along with rhinovirus, coronavirus and a few other commonly circulating respiratory viruses. It’s been a bad respiratory virus season in general, and we will see I think the flu season has yet to declare itself completely.”

There are some steps you can take to try to keep from catching a virus. Obviously, avoid close contact with people also are sick. Wash your hands. Avoid touching your eyes, nose and mouth. And clean and disinfect surfaces that people touch a lot at home, work and school.

But there’s no getting around the fact that the best way to avoid the flu virus is to get a flu vaccine. It’s not too late. And Mack said, contrary to what some people think, “It’s scientifically not possible to get the flu from the inactivated flu shot.”
## People

### Michael Hawkins

Michael Hawkins, M.D., chief of MUSC Health Hospital Medicine Service, was elected to mastership in the American College of Physicians (MACP). MACP is conferred only to a select number of candidates whose careers are distinguished through achievements, including the practice of internal medicine, academic contributions to medicine and service to the ACP.

### April Roscoe

April P. Roscoe, RN, was named safe patient handling and mobility program manager for MUSC Health. Roscoe will provide leadership and assume continuing responsibility for the development, implementation, coordination and evaluation of the Safe Patient Handling Program. She will serve as an expert in safe patient handling, assess patient care and staff safety needs and make recommendations for safe patient handling, injury reduction, staff education and monitoring and evaluate program effectiveness. Roscoe completed her MSN in nursing administration with a focus on organizational leadership at the University of South Carolina.

### Karen Stewart

Karen Stewart was named associate chief learning officer for MUSC Health. Stewart will focus on developing relationships with leaders around the organization, learning MUSC’s culture and auditing systems and current modules utilized in the Office of Learning. Stewart comes to MUSC from Atlanta, Georgia, where she worked in global learning and led training teams and strategy in nursing and health care professional programs.

### Michael Yost

Michael Yost, Ph.D., professor of surgery and bioengineering and vice chairman of research in the Department of Surgery, was elected as a fellow to the National Academy of Inventors class of 2018. The 2018 class of fellows represents 125 research universities and governmental and nonprofit research institutes worldwide.

## Events

### MLK Parade

The MLK parade honoring Dr. Martin Luther King Jr. will be held at 10:30 a.m., Monday, Jan. 21 (rain or shine). The parade starts at Burke High School and ends at Marion Square. Related events include the MLK Area Workshop Service on Jan. 13, MLK Racial Equity Institute, Jan. 17-18, the MLK Youth Poetry Slam Jan. 19, MLK Ecumenical Service on Jan. 20 and MLK Breakfast on Jan. 22. Visit https://ywcagc.org/mlk-celebration.html.

### Lowcountry Oyster Festival

The Lowcountry Oyster Festival will take place from 10 a.m. to 5 p.m., Sunday, Jan. 27. Enjoy oyster shucking/eating contests, live music by The Distinguished Gentlemen, wine, beer, a children’s area and a food court showcasing local restaurants. Admission is $17.50 in advance, online at Boone Hall Farms Official Visitor Center and $25 at the gate. Kids 10 and under are free with an adult general admission ticket.

### Septima Clark Poetry Contest

The Septima P. Clark poetry contest, coordinated by the Office of Student Programs & Student Diversity, the College of Health Professions and Charleston Poet Laureate Marcus Amaker, is open to elementary, middle and high school students. Submissions will be open from Feb. 1 to April 1. Visit www.musc.edu/spsd.

## My Career Development Opportunities

In keeping with the Imagine MUSC 2020 goal to Foster Innovative Education and Learning, a new catalog has been created in MyQuest called MyCareer. MyCareer is tailored to provide tips and tools to guide employees’ career and professional development and includes a mix of online and classroom learning opportunities. Employees are encouraged to explore the offerings provided in this catalog as a component of career development opportunities offered across the institution.
The tie between lifestyle habits, body’s response to cancer treatment

Researchers explore link between tumor biology and lifestyle

BY CAROLINE WALLACE

Poor diet and lack of exercise are associated with cancer development, but the underlying biology is not well understood. Advanced glycation end products (AGEs) could offer a biological link to help us understand how certain lifestyle behaviors increase cancer risk or lessen the likelihood that an anti-cancer therapy will be effective.

AGE accumulation is the natural and unavoidable result of the breakdown of nutrients, sugars and fats. AGE levels, however, can be increased by the consumption of processed foods high in sugar and fat. Certain cooking techniques, such as grilling, searing and frying, also increase AGE formation.

High AGE levels could prevent patients with estrogen receptor (ER)-positive breast cancer from responding to tamoxifen therapy, suggest preclinical findings reported by researchers at MUSC in a recent issue of Breast Cancer Research and Treatment. The MUSC team was led by David P. Turner, Ph.D., a Hollings Cancer Center researcher, who is one of the two corresponding authors on the article. Marvella E. Ford, Ph.D., associate director of population sciences and cancer disparities at Hollings Cancer Center, is the other corresponding author.

“By showing that AGEs in the diet may impact how well breast cancer patients respond to therapy, we can make breast cancer patients aware of their existence,” says Turner. “And we can design lifestyle interventions aimed at reducing AGE intake.”

AGEs cause an imbalance between molecules called free radicals and antioxidants, leading to chronic inflammation that can promote the development of a variety of chronic diseases. Furthermore, as AGEs accumulate in our organs, they cause damage that is associated with diseases such as diabetes, Alzheimer’s, cardiovascular disease, arthritis and cancer. However, AGEs have not been studied in depth in the context of cancer.

The publication by Turner, Ford and colleagues shows that elevated AGE levels lead to continual activation of pathways that promote cancer cell growth. A key molecule turned on by those pathways is important in the context of ER-positive and -negative breast cancer. This led the MUSC team to explore how AGE might affect cancer cell signaling in ER-positive breast cancer.

The MUSC team found that AGEs actually increase the phosphorylation (a process that turns on a biological pathway) of a protein called estrogen receptor alpha in a breast cancer cell line model. Adding tamoxifen to the cancer cells prevented their growth. However, adding AGEs caused them to grow once again. This could mean that patients with high AGEs are less likely to respond to tamoxifen treatment.

Turner's team also found that a defined lifestyle intervention of exercise and dietary counseling lowered systemic levels of AGEs in overweight women with non-metastatic ER-positive breast cancer.

Next steps are to expand the published study to determine the effects of the intervention on a larger scale, while further exploring the biological pathways in animal models. Together, they should shed light on how lifestyle interventions can beneficially affect cancer treatments by reducing AGE levels.
Rethinking the OR: Simulation tests researchers’ ideas for improving OR design

BY LESLIE CANTU
cantu@musc.edu

With clipboards and iPads in hand and pens and pencils at the ready, dozens of people surrounded a mock operating room to scrutinize in silence the smallest movements of a surgical team. Their observations, as well as the operating team’s critiques, will be collated and analyzed in the coming weeks as part of a joint project between MUSC and Clemson University to re-imagine the operating room.

Operating rooms haven’t changed much since he first set foot in one in 1994, said Robert Cina, a pediatric surgeon who’s been participating in this study since the beginning. In fact, they hadn’t changed for decades even before that. There’s better and more technology, but the actual setup of the room is basically the same.

But MUSC and Clemson researchers wondered if the operating room could be reconfigured to improve quality, safety and outcomes both for patients and the medical staff.

Adverse events happen in 1 out of every 10 surgeries, and while better training and processes can help improve that statistic, better design is also part of the solution, according to Anjali Joseph, the Spartanburg Regional Health System endowed chair in architecture + health design and director of the Center for Health Facilities Design and Testing at Clemson University.

She and Scott T. Reeves, M.D., the John E. Mahaffey endowed chair and chairman of the MUSC Department of Anesthesia and Perioperative Medicine, are the lead investigators on the four-year, $4 million research grant from the Agency for Healthcare Research and Quality.

The project is now in its fourth year. What started as a basic simulation, with tape on the floor to indicate the placement of equipment, is now an almost fully realized operating room within the Clemson Design Center on the second floor of the Cigar Factory in Charleston.

The results of this research will be felt in the MUSC Children’s Health R. Keith Summy Medical Pavilion in North Charleston and the MUSC Health West center in West Ashley both under construction — not to mention in operating rooms around the country as other health care systems apply the research findings to their own construction projects.

In mid-December, surgical teams walked through a couple of common children’s surgeries: hernia repair and ear tube and tonsil surgery.

“Surgeons are creatures of habit. We learn to do things a certain way. In some ways, from a patient safety perspective, you want it to be routine. You want us to be doing things the way we always do them,” said Clarice Clemmens, a children’s ear, nose and throat surgeon who participated in a simulation for the first time.

So asking Clemmens not to turn the operating table 90 degrees, as she was taught to do and has always done, was a big step. Even though, as she explained, turning the table 90 degrees really doesn’t work well. “That can be an inefficiency in the OR. There are multiple cords and circuits that are easily tangled during the turn, which ultimately adds time to the case.”

Instead, the room setup allowed the team to turn the operating table 45 degrees.

“It worked beautifully,” Clemmens said. The anesthesiologist had better access to the patient and everything moved more efficiently. “This has clearly been very well thought out,” Clemmens said. Though she can’t make the change in the current operating room, because there isn’t enough space, she’d welcome the design in the new children’s medical pavilion in North Charleston.

Changing where the operating table faces sounds like a small step, but not to researchers who are intently focused on the purpose of every square inch of space. The idea is to ensure that only items that absolutely must be in the room are there, to eliminate as much as possible surfaces that must be cleaned and clutter that’s distracting.

During the simulated surgeries, each member of the surgical team had an assigned Clemson observer who noted where that person moved, where there were potential conflicts and where things seemed to work well. General observers kept track of overall movement in the room.

Following the surgeries, the medical and architectural teams reviewed the action. For example, Reeves and Joseph thought they had the overhead booms for lights and display screens in the best places. But Cina said one display screen was in the way. On the other hand, he liked that the floor is color-coded, giving both the medical teams and cleaning crews a visual cue as to where the equipment should go.

The room zones, as designated by the colors on the floor, are an important part of the design. The researchers divided the

See SIMULATION on page 10
**Meet Sylvia**

Sylvia Jang

**College; How long at MUSC**
College of Medicine; third-year

**How are you changing what’s possible at MUSC**
I founded the MUSC Asian Student Association and am now the vice president of diversity and inclusion of the Student Government Association. I create programming to celebrate and raise awareness for the different identities on campus.

**Family**
Father, Kyung-Jin Jang; mother, Yeon-Sook Jang; and a sister, Eunice Jang

**Who in history would you like to meet and why**
Jazz singer Ella Fitzgerald, because of her unforgettable musicianship and strong, charismatic personality

**Favorite quote**
“Don’t ever underestimate the importance you can have because history has shown us that courage can be contagious, and hope can take on a life of its own.” — Michelle Obama
Early data from adolescent brain study coming out

By Leslie Cantu
cantu@musc.edu

What parent of a teen or tween hasn’t at some point looked at their child and wondered, “What the heck is happening inside that head of yours?”

Tyra Johnson has. It’s one reason she decided not only to enroll her daughter Tyla in a nationwide study of adolescent brain development but also, in her job as a parent advocate in the Charleston County School District, to encourage other parents to enroll their children.

“I’m just glad this is happening, because a lot of parents have questions about their children. Sometimes it’s like, ‘What is really going on in your brain?’ And now you actually physically can see it,” she said.

Of course, the study can’t provide a minute-by-minute explanation for a child’s behavior. But investigators believe the 10-year longitudinal Adolescent Brain Cognitive Development (ABCD) study will provide a wealth of information about how biology and experiences interact to affect brain development, health, behavior, academics and more.

“We’re looking at everything very holistically. We’re collecting data that’s cognitive, social, emotional, cultural, environmental and biological so we really can better understand holistically what’s driving these relationships,” said one of the principal site investigators at MUSC, Lindsay Squeglia, Ph.D., of the Department of Psychiatry and Behavioral Sciences at MUSC.

MUSC is one of 21 research sites across the country involved in the study. Here, Squeglia and co–principal site investigator Kevin Gray, M.D., division director of the Child and Adolescent Psychiatry Division within the Department of Psychiatry and Behavioral Sciences at MUSC, recruited 378 children ages 9 or 10 to participate. Nationally, more than 11,800 children are participating.

Already some preliminary data has been released, including findings about brain differences in children who log more screen time. Baseline data for the entire group will be released in March.

The preliminary data shows that only 5 percent of the first half of participants meet recommendations of nine to 11 hours of sleep per night, one hour of physical activity and no more than two hours of screen time.

In addition, the data shows thinner cortices in children who use more screens. Cortical thinning is a normal part of brain development; in adolescence, the brain loses half its neurons as it becomes more efficient and trims redundant connections, Squeglia said. But it’s not clear yet what it means that children with more screen time show more cortical thinning, she said.

“Years of follow-up that lie ahead will help researchers understand the relationship. This release of the first batch of data is an exciting time for the team, but the researchers caution that data from one snapshot in time shouldn’t be overinterpreted. The whole idea of a longitudinal study is to see changes over time. Once scientists understand the order in which changes are happening, they can investigate how those changes are connected.”

“We’re excited to reach this milestone, but we also know the most important thing is to follow children as they grow into young adults.”

See Adolescent on page 11
Dear MUSC family,

Next week, on Jan. 14, eligible employees of MUSC will receive an email invitation to participate in our annual enterprise wide Press Ganey employee engagement survey. All employees hired before Oct. 14, 2018, are eligible to participate in this year’s survey.

The survey takes about 10 minutes to complete, and your responses are always anonymous. A high level of participation gives us the most accurate picture of our strengths and areas for improvement. The survey will remain open from Jan. 14 to Jan. 28 at 5 p.m.

This past year, all levels of the enterprise took steps to improve based on the 2018 survey results. For example, at the enterprise level, MUSC strengthened career development opportunities by creating the Enterprise Employee Scholarship Fund to provide assistance beyond the regular tuition assistance program for individuals who demonstrate significant leadership potential.

The Department of Diversity, Equity and Inclusion established the BRIHTE Leadership Academy, a two-year enterprise-wide leadership training program to identify and prepare underrepresented minorities for leadership positions at MUSC.

Many of the most important improvements made over the past year were grassroots changes that MUSC employees achieved at the department or division level. MUSC is a great place to work, largely because so many people are finding innovative solutions to improve their own work units.

As we continue to build a culture that cultivates and sustains employee engagement, your feedback is critical for leaders at all levels of the organization. Thank you for all you do on a daily basis to change what’s possible for those we serve.

Yours in service,

David J. Cole, M.D., FACS
MUSC President

**MUSC & MUSC Health 2019 Employee Survey**

**Date:** January 14 – 28, 2019 (survey closes at 5:00 pm on the 28th)
**Time:** At your convenience
**Location:** Check your @musc.edu email on January 14, 2019 for an email from Press Ganey with the link to the survey
**Who:** Survey is open to the entire MUSC enterprise

Your opinions are important. Take a few minutes to tell us what you think.

---

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- Direct service to MUSC and CofC
- Extending the service to Harris Teeter at Folly Rd. and SolLegare Rd
- Decreasing the wait time between trips by 25 minutes
- Increased trips overall including mid-day service

Full details on: www.ridecarta.com/2019Routechanges

– Effective January 6, 2019 –

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- Healthcare Workers/EMS
- Teachers

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EXAMPLES:

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Altria’s purchase of stake in Juul ‘may not be a disaster’

Tobacco control research leader give his take

BY HELEN ADAMS
adamshel@musc.edu

At the end of December, the tobacco giant Altria announced that it’s buying a 35 percent stake in the e-cigarette king, Juul. Juul is the hottest vaping product on the market, known for its popularity among young people.

Kenneth Michael Cummings, Ph.D., is watching the developments closely. He’s a professor in the Department and Psychiatry and Behavioral Sciences at MUSC and co-leader of the tobacco control research program at MUSC Hollings Cancer Center’s Cancer Prevention and Control Program. He’s also a national leader in his field, serving as an expert witness in legal proceedings against cigarette makers, including Philip Morris, and guiding public policy and regulations in the marketing and distribution of nicotine products.

But if you assume the veteran tobacco researcher would outright condemn the idea of Altria and Juul teaming up, you’d be mistaken. It’s a more nuanced situation that that, Cummings believes.

CUMMINGS’ SHARES HIS THOUGHTS
The purchase of Juul is interesting, but not surprising. It shows real pressure on the cigarette business coming from new product innovations that can offer what cigarettes do to consumers with lower risk. Landline phones were replaced by mobile phones, typewriters by computers, photographic film by digital cameras and digital cameras and video equipment now on our iPhones and similar devices.

Replacing cigarettes is long overdue. I think e-cigarettes have that potential and when products excel as Juul has, they typically get bought by cigarette companies. The same happened a decade ago with smokeless tobacco.

The agreement to purchase Juul is complex, since it only gives Altria a minority share and prevents it from controlling the company. There are a lot of rumors flying as to what motivated the deal, but what seems apparent is that cigarette sales are falling and the cigarette business is placing bets on where they can go to remain profitable in the future.

There are some odd advantages with Juul and Altria, since this gives Juul access to Altria’s cigarette distribution platform, i.e., self-space in stores and access to Philip Morris’ consumer database to market Juul directly to smokers. [Altria is the parent company of Philip Morris.]

It is rather obvious that cigarette companies are better positioned to transform the marketplace faster than FDA or anyone else can. So while one might be worried to see this development, one has to wait and see what Altria will do with their ownership stake in Juul and how this plays out in the future.

It may not be a disaster, as many are now saying. In fact, it could potentially benefit public health if Altria truly sees value in pushing consumers away from cigarettes to less harmful nicotine alternatives.

Time will tell, but with the pace of innovation, even cigarette makers can no longer rest on their past success and hope to be profitable. If they did, Phillip Morris might end up like Kodak, a blip in the history books; although that would be a good thing also.

Juul vaping devices work by heating liquid that contains nicotine, creating a vapor users can inhale.

Diversity and Inclusion Training

Upcoming Training Opportunities

Welcoming Diversity Workshop
Saturday, January 26, 2019...4:00pm - 5:00pm
South Park - Room 301A - West Ashley
8 hours DBI credit and 6.25 AMA PRA Category 1 Credits TM
Click to enroll

Embracing Generational Differences
Wednesday, January 30, 2019...10:00am-12:00pm
Basie Science Building, room 302
2 hours DBI credit
Click to enroll

Handling Controversial Issues
Wednesday, February 13, 2019...9:00am - 1:00pm
South Park - Room 301A - West Ashley
4 hours DBI credit and 3.25 AMA PRA Category 1 Credits TM
Click to enroll

Safe Zone Ally Training
Thursday, March 7, 2019...9:00am - 1:00pm
Basie Science Building, room 302
4 hours DBI credit
Click to enroll

MUSC IDEA Program taking applications through Jan. 25

The IDEA program is now taking applications for the Spring 2019 session. IDEA is a comprehensive initiative developed to meet the research administration needs of our campus. There is no fee to participate in the program. MUSC seeks to increase its effectiveness and streamline the administrative process related to research administration. Visit https://research.musc.edu/resources/sctr/education/idea
New year, new U: Make 2019 your healthiest year yet

For many people, the transition to a new year is a symbolic new start — a time to improve health or make long sought-after lifestyle changes. And if you are among the millions who have made New Year’s resolutions aimed at improving your physical and mental health in the months ahead, MUSC’s employee well-being program, Imagine U, can serve as an invaluable toolkit that provides you with countless resources and strategies to help you achieve your goals and maintain your progress all year long.

Regardless of whether the new year has you feeling inspired or overwhelmed, Imagine U will equip you with actionable strategies to manage stress, feel your best, increase your fitness, cultivate positive relationships, establish financial freedom and reduce your overall health risks, just to name a few.

We designed Imagine U specifically with MUSC employees in mind, and as a result, it contains more than 100 incentivized well-being challenges aimed at transforming the lives of our employees while on campus, at home and in their communities.

In addition to providing a wealth of resources from industry experts offered exclusively to MUSC employees, the Imagine U framework can serve as a roadmap to achieving optimal health, even if you aren’t quite sure where to start.

Perhaps you have been wanting to manage your weight and cultivate a healthier relationship with food but are too overwhelmed to do so. Imagine U offers challenges that connect you directly with registered dietitians who can provide you with nutrition counseling as well as challenges that can help you improve the quality of your diet, such as the “eat local” challenge.

There is also a spectrum of challenges created to help you improve your health and fitness. From connecting you with a personal trainer at the Wellness Center to completing a “couch to 5k” program or even enrolling you in preventative screenings, there truly is something for every employee, regardless of their fitness level or health background.

While many of our New Year’s resolutions tend to focus on fitness and nutrition, Imagine U aims at improving overall well-being by placing a large emphasis on psychosocial health, particularly as it relates to the lifestyles of our health care team members.

In this area, you can take challenges that will equip you with strategies to better manage stress, reduce anxiety and develop a daily gratitude practice, among many others.

Not only will participating in the Imagine U program provide you with all the resources necessary to achieve your health and wellness goals this year, you also will be able to win some amazing prizes while doing it. Every employee who earns a minimum of 25 points each quarter is eligible to pick from a variety of MUSC-branded items and entered into a drawing for $100.

We look forward to helping you make 2019 your healthiest and most fulfilling year yet.

If you have any questions about how to participate in Imagine U or would like to share your own Imagine U success story, please email musc-empwell@musc.edu.

**Imagine U**

Building Well-being Together

---

**Dr. Robert Cina, left, explains the OR design.**

Dr. Robert Cina, left, explains the OR design.

Operational changes. Once the hospital has been open for six months, they’ll record some surgeries and compare those recordings to recordings of surgeries in the existing operating rooms to determine if the new design is successful.

A key part of the project is the fact that investigators will openly share what they’ve learned. Reeves said the researchers recently hosted a group from MedStar Health, a health care system in the mid-Atlantic region that’s preparing to build more ambulatory operating rooms. The team will also create a free web-based how-to tool with all its findings.
findings are still yet to come,” Gray said.

The massive scale of the study means that investigators are bound to capture the full range of the adolescent experience — children succeeding and growing into functional adults as well as children who fall into drug or alcohol use, experience depression or begin to show signs of mental disorders.

Gray is particularly proud that the MUSC site recruited participants representative of the surrounding community.

“It would be a tragedy to have a study of this scale and have it include only a subset of the population,” he said.

The research team worked hard to partner with schools and community groups to reach parents and make clear that the researchers view this as a two-way partnership, not as a one-way street in which the researchers take what they need and leave.

“We’re both from this area and have a long-term investment in trying to contribute back to the community,” Gray said of Squeglia and himself. Gray sees the study as a way for families to have firsthand experience with science in action. He said they also want to relay the findings in ways that are meaningful to families.

The study includes MRI scans of the children as well as lengthy questionnaires that both the parent and child answer. The questionnaires could sometimes be challenging for the children, who earn prizes and money for their participation.

“I do not like the questions. There are too many, and some of them are a little hard to understand,” said Kate Farr.

She and her sisters Elliott and Sarah, triplets who are now 11 years old, are participating in the study. While mom Harriet Farr answered questions about the girls’ diets, exercise, extracurriculars and even their fears, the girls answered questions about things like alcohol and school.

Tyla Johnson’s mom was a bit surprised that questions about drugs and alcohol were included, as those aren’t things her daughter is exposed to at home. But now that Tyla is 12 and in middle school, Tyra is happy the study prompted her to start talking about drugs and alcohol early.

Elliott Farr said the most boring part of the study is staying in the MRI. The participants have to remain still for about an hour, watching movies or playing interactive games, while the scans are happening. Kate Farr said she expected the MRI to be scarier than it actually was.

“I thought it was kind of cool,” she said.

The girls will be young adults by the time the study is finished. Tyla plans to study criminal justice so she can go into forensics. She’s interested in S.C. State University, North Carolina A&T State University and Spelman College, although Spelman doesn’t offer criminal justice. Elliott wants to attend a college where she can compete in gymnastics. Kate is considering either the College of Charleston or The Citadel, while Sarah would like to be a professional ballerina.

Even if they move out of state before the study is done, the odds are they’ll be near another study site and able to continue. Already, the Charleston site has gained some participants who started at another location and then moved to this area, Squeglia said.

“That’s so unusual for a longitudinal study. Usually you just lose them. It’s so great to be able to keep people within the network,” she said.

Besides the questionnaires and MRI, participants provide biological specimens, including hair to be analyzed for toxin exposure, saliva for genetic samples and even their baby teeth as they fall out.

The de-identified data will be available to researchers at all universities, not just those participating in the study.

Researchers at UCLA have started cross-referencing participants’ ZIP codes against public data on lead exposure and other toxin exposure to see how those toxins affect brain development, Squeglia said.

The timescale and geographic scope of the study mean that researchers can also develop sub-studies based on unexpected events. Researchers at Florida International University in Miami did this after Hurricane Irma hit the East Coast in 2017.

The hurricane affected three ABCD sites: FIU, University of Florida in Gainesville and MUSC. The researchers decided to study the effects of the hurricane itself and the media coverage on children at the three affected sites compared to children at the University of California San Diego, which wasn’t hit by Irma.

In preliminary results, they found relatively low overall rates of post-traumatic stress disorder. As one might expect, actually experiencing the hurricane led to PTSD for some South Florida children. But media exposure also led to PTSD, even for the children in San Diego. Because the researchers had access to MRI data from before the hurricane, they could see that children whose brains hadn’t distinguished well between negative and neutral images were more susceptible to PTSD.

Like all children in the ABCD study, the children in the Hurricane Irma sub-study will be followed into adulthood. FIU psychologist Anthony Dick, Ph.D., told FIU News he and his team hope to offer suggestions to communities on how to prepare for and respond to disasters with children’s mental health in mind and to promote resilience.

Although the ABCD study is just beginning, Harriet Farr and Tyra Johnson said it’s already given them things to think about.

“It’s been better than I expected and more interesting,” Farr said. She’s particularly taken note of findings involving screen time.

“It’s made me more aware,” she said. “It’s made me realize I really do have to control screen time. Not only has it been interesting, but it’s been so beneficial for our family in being aware of how much we’re all on our phones, my husband and myself included. It’s not just the children.”
Steve Barker, center, joins MUSC Storm Eye Institute residents Dec. 14 at the grand opening of the Belinda C. Barker Surgical Training Suite. The suite was created by Barker in honor of his wife who was inspired by other patients suffering from blindness and other eye diseases. The facility will allow residents to remain on the cutting edge of technological advances in ophthalmology and aid in the training and preparation of the next generation of ophthalmologists at MUSC.