

Devoted to noteworthy happenings

at the medical school

OVERSCRIPTED WITH TELEMED?

Alexa, get me a prescription for antibiotics. Okay, it's not *that* easy to get antibiotics, but a study by Kristin Ray, assistant professor of pediatrics at Pitt Med, suggests that doctors seeing patients via video chat visits offered by commercial companies take a more liberal approach to handing out antibiotic prescriptions for children.

Her team's recent study found that these online doctors prescribed antibiotics 52 percent of the time for acute respiratory tract infections like the common cold, sore throat, or sinusitis. Such prescriptions are given 31 percent of the time during in-person physician visits.

Ray says it is important to critically examine the risks and benefits of delivering this type of care.

"I can understand there's a need for a trade-off sometimes—a desire for convenience—but we need to maintain adequate quality as we're opening up new ways to treat kids," she says. *—EBG*

Heartfelt Gap

When Utibe Essien was a resident at Massachusetts General Hospital, he struggled serving a non-native-English-speaking patient who had atrial fibrillation. He couldn't get the patient the newest, best medication because of issues with insurance. It got Essien thinking—what's the interplay between minority identity and access to the latest AFib treatments?

Essien, now an assistant professor of medicine at Pitt Med and an investigator at the VA Pittsburgh Healthcare System, recently answered that question with colleagues at Massachusetts General. Their research found that black patients with AFib were 27 percent less likely to receive the latest AFib drugs on the market when compared to white people with AFib.

The newest AFib drugs are easier on patients than the older anticoagulant (warfarin) for the condition. They have few dietary restrictions, and some can be taken less often.

"There've been fewer strokes and fewer deaths with the new blood thinners, and I think a lot of that is due to the ease of adherence," says Essien. "Due to the need for increased monitoring, [the older anticoagulant] can be quite disruptive to those who have a 9-to-5 or have to pick up kids."

Essien says the next step in his research is finding out the cause behind this inequality. *—Evan Bowen-Gaddy*





THE GEORGE A. ROMERO COLLECTION/ UNIVERSITY OF PITTSBURGH

FOOTNOTE

At medical schools, and in our larger society, we pay a lot of attention to health and, well, avoiding death. Sometimes we talk about what makes a good death. But what about that space in the middle? Yes, it's time to give a nod to the undead. Since George Romero's 1968 *Night of the Living Dead*, the horror genre has been a lot more fun. The Pittsburgh filmmaker and writer, whose work has been added to the National Film Registry, died in 2017; but his canon will forever be animated here at Pitt. Earlier this year, the Romero family donated his archives to the University Library System.



NOAH PURDY/FOOTHOLD STUDIOS

Overheard: Empowered for Sexual Health

Sharon Hillier, a PhD professor in Pitt's Department of Obstetrics, Gynecology, and Reproductive Sciences, as well as in the Department of Microbiology and Molecular Genetics, grew up north of Seattle in rural Skagit Valley. Hillier, who also is the Richard Sweet Professor of Reproductive Infectious Disease and vice chair for faculty affairs for ob/gyn, lived on a dairy farm and played with kids of strawberry, potato, and chicken farmers. One day, during her postdoc fellowship at the University of Washington, she was making rounds to HIV patients when she saw Marvin, a childhood friend who was suffering from the virus. Marvin died soon after that day. He inspired Hillier to dedicate her career to HIV research. She focuses on developing preventive HIV products for women and other receptive partners. Hillier's research has taken her all over the world, but she spends a lot of time in Africa, where her work empowers women to have a say in their sexual health.

How do antiretroviral drugs work against HIV?

[The disease] is all about replication, reproducing the nucleic acid. The retroviruses have transcriptase enzymes that replicate the RNA. The drugs that we use generally work in different places. There are some that actually stop replication at the integration point from when the virus comes into the cell. There are different drugs that have different mechanisms of action, but a simple way is they stop replication. You don't stop it outside the front door; you stop it before it gets into the rest of the house.

What products are you working on now?

There are two [experimental products] that I'm really excited about. There are vaginal rings: You twist a ring and insert it into the vagina, and it pops into shape. The little ring is made out of silicone, and it just sits in the vagina and releases antiretroviral for about a month at a time. We're also working on films. They're like a Listerine breath mint strip, but a little bit bigger. We're putting a bit of antiretroviral drug on the films. You put it over your finger, then put it in the vagina, and it unfolds. When it gets wet, it turns into a gel, but it just sits there. It would provide a week of protection at a time.

How do the African patients you see feel about these products?

A lot of women live in very difficult contexts. Maybe they're married, and their husband is having sex with other women. In Uganda, at least for many people, if you leave the marriage, you lose your children. The children stay with the husband. So, the woman has to decide if she wants to leave her husband and lose her children—or does she want to stay with her husband and maybe get HIV. For many of the young women in this study, they do find it incredibly empowering because it's something they can control. ***—Interview by Brian Salvato***

Faculty Snapshots

Richard Steinman received a Chancellor's Distinguished Teaching Award at the University's Honors Convocation this year. **As director of the MD/PhD Medical Scientist Training Program and Physician Scientist Training Program, Steinman is known for emphasizing scientific literacy. James O'Brien, a third-year PSTP student, says that Steinman requires students to perform "chalk talks," which are exercises that challenge students to articulate their project to scientists and people outside their field. "He taught me that scientists are storytellers, and to be successful, I need to learn how to articulate my work in a way that is simple and exciting," O'Brien says of his mentor.**



Steinman

Four other Pitt Med faculty members were honored with Chancellor's Distinguished Research Awards:

Since coming to Pitt more than 20 years ago, Derek Angus has become a leading voice in critical care research and practice, including the prevention and treatment of sepsis. He is a Distinguished Professor, the Mitchell P. Fink Professor, and chair of the Department of Critical Care Medicine.



Angus

Nathan Clark published in *Science* in 2018. The work of the associate professor of computational and systems biology focuses on understanding genes and genomes using evolutionary analyses. He will be joining the faculty of the University of Utah this fall.



Clark

JoAnne Flynn has transformed scientists' understanding of the immunology of tuberculosis by making groundbreaking changes to vaccine administration and introducing the nonhuman primate model. A professor of microbiology and molecular genetics, she is recognized internationally as an expert and thought leader in her field.



Flynn

Mary Phillips's contributions to our understanding of the neural basis of emotions led to the dissemination of a brain model that laboratories use worldwide. This work has shone a light on the neuropathophysiological basis of bipolar and other mood disorders. Phillips holds the Pittsburgh Foundation–Emmerling Endowed Chair in Psychotic Disorders in the Department of Psychiatry.



Phillips

Honorees each received $2,000 and a $3,000 grant to support their work. ***—Nichole Faina and @Pitt staff***



CATHERINE LAZURE

Touching fentanyl does not cause a toxic reaction.

PHYSICIAN TAKES AIM AT FENTANYL FEARS

Ryan Marino wants people, particularly first responders, to understand how fentanyl—a synthetic opioid 50 times more powerful than heroin—*doesn't* work.

"It's become an urban legend that fentanyl is contagious," says Marino (MD '14, Fel '19), a toxicologist and emergency medicine physician. In reality, fentanyl encountered by first responders cannot be accidentally absorbed through the skin or inhaled in sufficient quantities to cause a reaction.

"If that were possible, people would just touch drugs instead of injecting them," he says.

Even people who should know better can succumb to fentanyl fear, Marino adds, recalling an overdose that prompted hospital staff to seal the room (by stuffing towels under the door). One recent Texas broadcast noted that deputies self-administered naloxone nasal spray after feeling light-headed and overheated at a suspected drug scene.

"People are having real symptoms because of misinformation," says Marino, who started a Twitter hashtag #WTFentanyl, to counter fentanyl hysteria. Health care professionals around the country are using it to tag and debunk news reports. Information pinned to Marino's own Twitter account (@RyanMarino) also shares fentanyl facts.

"It's an obligation for me to spot these things and address them head-on," he says. —*Michele Baum*



MAFELIPE/GETTY IMAGES

FLASHBACK

Sometime in 1983, Jonathon Erlen was working at Falk Library's reference desk. It was a new job for Erlen, and things seemed to be humming along just fine. Then, in walks a man in full scuba gear; he picks out a medical journal, sits down in front of Erlen, and proceeds to read. The peculiar patron eventually left without a word. In the decades to follow, Erlen would dive into his roles with the Health Sciences Library System with gusto. Last winter, he retired as history of medicine librarian with teaching appointments in schools and centers throughout the University. The C.F. Reynolds Medical History Society, in which he remains active, has announced a lectureship in his honor.



JOAN HARVEY

FOOD FOR THOUGHT

"Let food be thy medicine, thy medicine shall be thy food." Hippocrates's quote is a wise one to live by. But what exactly constitutes a proper diet, and what should doctors tell patients about healthful eating? At the request of several students, Pitt Med presented its first Culinary Medicine course this spring to address these questions. Held at Phipps Conservatory and Botanical Gardens, the mini-elective spanned three evenings and was taught by volunteer chefs. The course focused on evidence-based Mediterranean, Dietary Approaches to Stop Hypertension (DASH), as well as plant-based diets. The 16 first-year students who took the course learned cutting techniques and food safety, and each class ended with a meal. "There's so much about dieting in the lay press, so it's important that we help students identify what topics are most helpful when talking to patients," says Joan Harvey, MD and associate dean of student affairs. (Above, from left: Jackson Mitzner, Emily Hacker, Vice Dean Ann Thompson, Harvey, Michelle Nanni, and Hermoon Worku.) *—Gavin Jenkins*

NAME DROPPING

Dina Katabi gets excited about the possibilities when combining computational power with radio waves. She is the Andrew and Erna Viterbi Professor of Electrical Engineering and Computer Science at MIT and a recipient of the MacArthur Fellowship. This October, at Pitt's Science 2019, she'll give the Klaus Hofmann Lecture.



Katabi

Katabi directs MIT's Center for Wireless Networks and Mobile Computing. One of her inventions uses machine learning to detect falls and monitor vital signs in the elderly (without the need for wearable sensors). Another allows the user to "see" through walls and blocked blood vessels. Several start-ups have sprung from her lab.

Here are some other talks not to miss at Science 2019. (All of these speakers belong to the National Academy of Sciences or the National Academy of Engineering, by the way.)



Medzhitov

One of the world's leading immunology researchers will give the 2019 Dickson Prize in Medicine Lecture. That's **Ruslan Medzhitov**, Sterling Professor of Immunobiology at Yale University. Medzhitov has made fundamental discoveries regarding the protein he codiscovered known as Toll-like receptor 4 and the roles it plays in immunity and inflammation. He is a Howard Hughes Medical Institute investigator.



Sánchez Alvarado

Alejandro Sánchez Alvarado will give the Mellon Lecture. He's scientific director of the Stowers Institute for Medical Research and a Howard Hughes Medical Institute investigator. The Sánchez Alvarado Lab has developed molecular tools to explore the mysteries of regeneration in the planaria *Schmidtea*, hoping to also shed light on human health. (Our bodies replace probably 10 billion cells every day, his lab site tells us.)



Spector

Alfred Spector will give the Senior Vice Chancellor for Research Lecture. He was among the faculty at Carnegie Mellon University who developed the Andrew File System; Spector then went on to commercialize it at the company he founded, Transarc, which was eventually bought by IBM. He retired from Google in 2015 as vice president for research; he now serves as chief technology officer for the hedge fund Two Sigma. *—Erica Lloyd*