College of Health Solutions

Arizona State University

Year in Review

Highlights from a year of innovation in health

2020 – 2021

Looking back at our impact

2020 – 2021 year in review

2020 was just three months old when our world was devastated by a virus we had never before heard of. All of us — our students, faculty, staff and community members — faced unknown challenges as we struggled to navigate a changed landscape.

Amid all of the uncertainty, one thing was constant: our commitment to our mission. At the College of Health Solutions we aim to improve the health of the populations we serve. As COVID-19 irrevocably altered our worlds, we moved to the forefront with solutions — *health solutions*.

As you read about our research, people, programs and collaborations, one thing is clear — our mission is more important than ever. We must boldly transform the way we educate our students and continue working toward solutions that help people live healthier lives.

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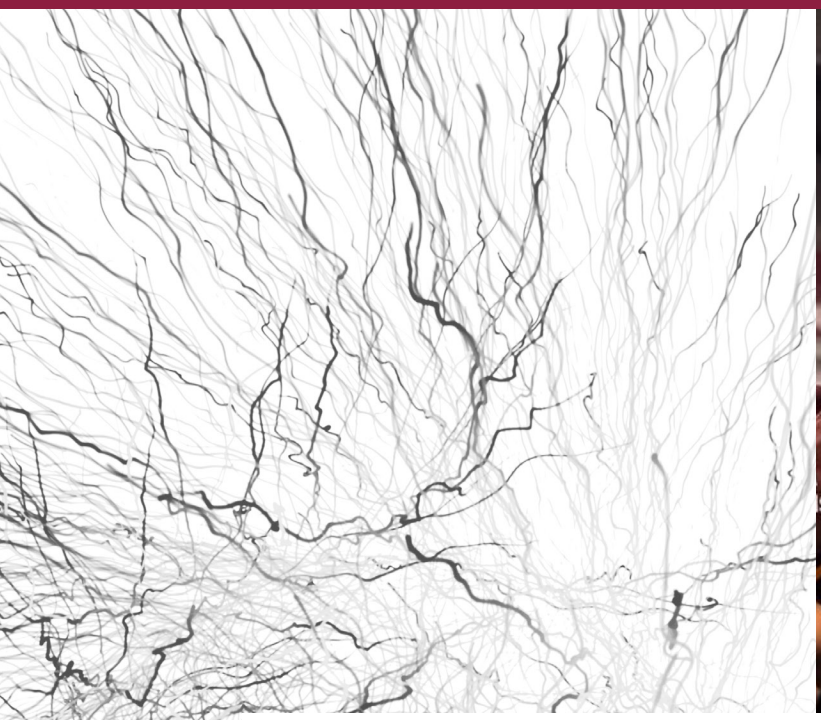
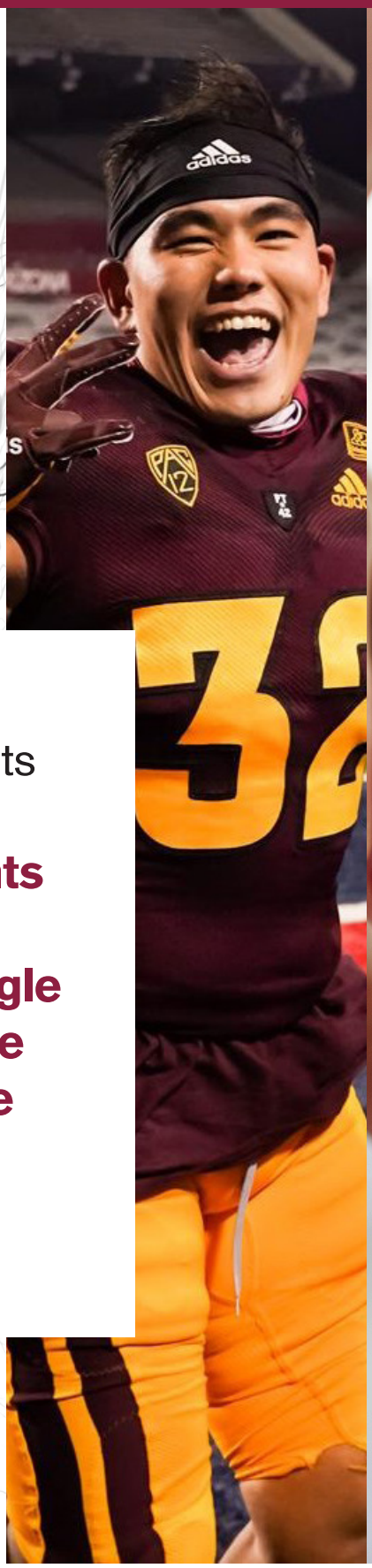
People and progra





From delivering better care for leukemia patients to fueling Super Bowl champions, our **students and faculty consider health from every angle** as they work to **improve well-being for people of all ages**, no matter where they live, learn, work and play.

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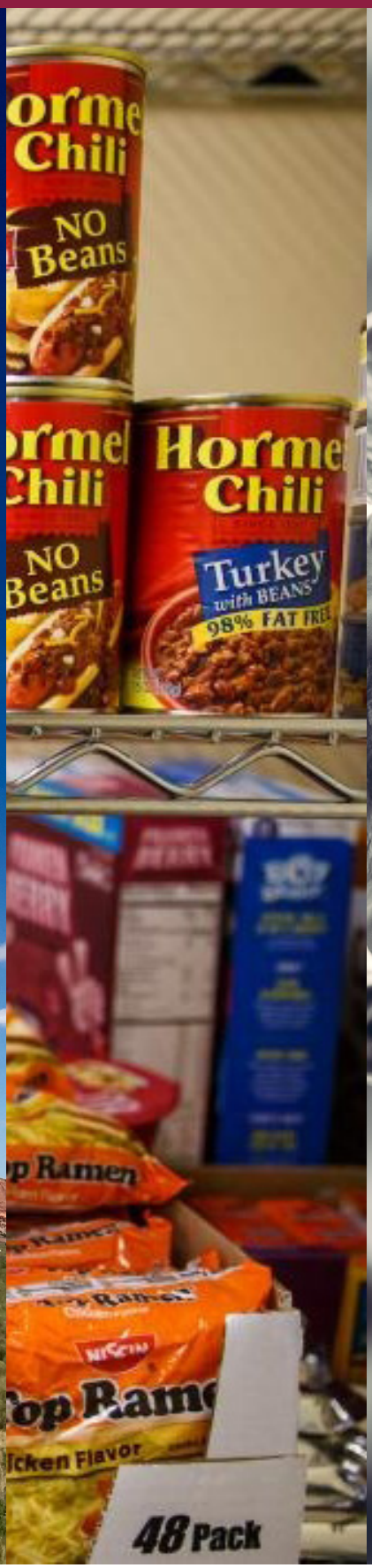
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Compassion 101

Class matches students with dementia patients

chs.asu.edu/**2021/compassion**

Some 55 million people worldwide are now living with dementia, and that number will triple by 2050, according to the World Health Organization. Worse, there's a shortage of people to care for them all. Faculty associate **Gillian Hamilton** is working hard to make her students understand and care about these vulnerable patients.

In her Introduction to Dementia and Alzheimer's Disease course, she requires each student to spend time with a dementia patient every week. Even during the COVID-19 pandemic, students masked up and went to individual patients staying at home with their families since they were not allowed to go into group living facilities because of visiting restrictions.

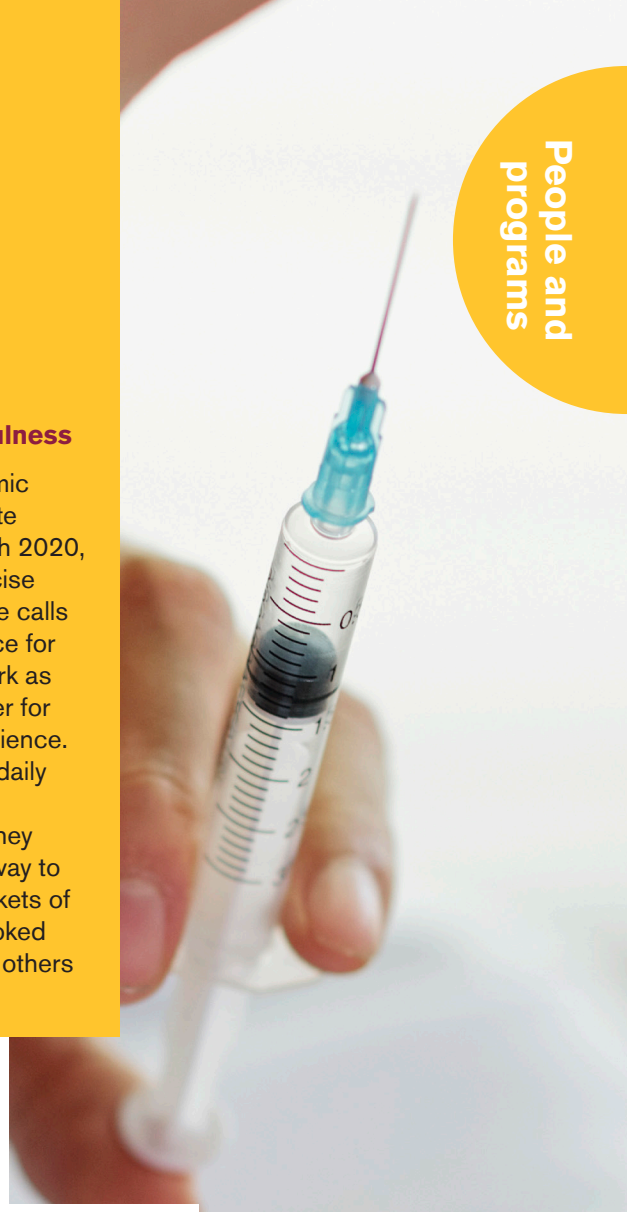
Hamilton also shows her students what it's like to live with senses and cognition dulled by age. Her "virtual reality" exercise requires students to wear gloves, dark glasses and headphones blaring noise to simulate the clumsy fingers, unclear sight and confusion dementia patients may experience. Hamilton's goal is to spark compassion and get more students interested in working with dementia patients. "They're the generation that's going to take care of us," she said.

Mindfulness that matters

Alumna Tiara Cash

chs.asu.edu/2021/mindfulness

When the COVID-19 pandemic forced ASU's switch to remote learning and working in March 2020, alumna **Tiara Cash,** BS exercise and wellness '13, did what she calls "reaching out and holding space for others" as part of her former work as program manager of ASU's Center for Mindfulness, Compassion and Resilience. She and other staff at the center led a daily meditation on YouTube to help others cope with the stress and anxiety many were feeling as they navigated social distancing and the risk of disease. It was a way to remind others to be kind to themselves and add to their "buckets of resilience," she said. "Health care professionals are being looked to as the superheroes of today, but we cannot fill the cups of others until we fill our own."



Herd immunity: Give it a shot

Undergrad's research shows vaccine, herd immunity link in AZ

chs.asu.edu/2021/immunity

Vaccines save millions of lives each year, but people are increasingly saying no to them, which lowers herd immunity, a population's resistance to contagious disease. To demonstrate the link between herd immunity and vaccines, ASU alumna Pooja Sangha researched both among Arizona schoolchildren. Working under the direction of Associate Professor **Mac McCullough** as an undergrad, she found decreased herd immunity and increased rates of people rejecting vaccines during the years 2015 to 2018.

The study is helping the Maricopa County Department of Public Health address declining vaccination rates. Sangha "put her findings into practice to benefit public health," McCullough said. She also was the only undergraduate named among **2019 Students Who Rocked Public Health** according to the Journal of Public Health Management and Practice.

"This experience and everything happening in the world right now has really reinforced my passion for public health research," she said.

COVID-19 Diagnostics Commons

Helping businesses get employees back to the workplace

chs.asu.edu/**2021/diagnostics**

COVID-19 lockdowns are under government control, but it was up to business leaders to figure out how to manage through the pandemic and determine what to do when restrictions began to ease. In an effort to provide real-world information and knowledge, the **College of Health Solutions** partnered with the **World Economic Forum** to launch the COVID-19 Diagnostics Commons in July 2020. This online resource has the latest information about testing options and best practices for bringing employees back to the workplace and keeping them safe.

Professor of Practice and biomedical diagnostics expert **Mara Aspinall** and **Nate Wade**, executive director of strategic initiatives and innovation, co-lead this project with significant support from **The Rockefeller Foundation**. The site features an online survey employers can use to share their own practices as well as learn from the results of three surveys conducted during the worst of the pandemic. The site also contains the most comprehensive database of all COVID-19 tests available on the market. In addition, Aspinall and Wade hosted monthly webinars that featured timely information about testing, safety and the latest science about the virus.

Uncertainty about COVID-19 variants and the possibility of future outbreaks makes this an important hub for new information. “We need to take back control from the virus with knowledge,” Aspinall said.

Learn more at chs.asu.edu/**DiagnosticsCommons**

Phase 1 survey results. November 2020:
chs.asu.edu/**2021/phase1**

Phase 2 survey results. April 2021:
chs.asu.edu/**2021/phase2**

Phase 3 survey results. September 2021:
chs.asu.edu/**2021/phase3**

Breakfast with champions

Alumna fuels NFL team on the big stage

chs.asu.edu/2021/champions

Super Bowl Sunday may be a junk food junket for most people, but College of Health Solutions alumna **Stephanie Kolloff O'Neill**, BS exercise and wellness '13, BS nutrition '13, spent 2021's Super Bowl LV keeping the Tampa Bay Buccaneers fueled up with wholesome snacks and drinks as they dominated the Kansas City Chiefs in a 31-9 win.

Kolloff O'Neill is director of performance nutrition for the Buccaneers and the first female full-time sports dietitian to work on the NFL sidelines at a Super Bowl. The job leverages the two bachelor's degrees she earned at ASU — one in nutrition and the other in exercise and wellness.

Along with keeping active players in shape, Kolloff O'Neill's work sets them up for a healthy, post-NFL life. "Obesity and metabolic disease are, unfortunately, not uncommon struggles for former players," she said. Her goal: Educate players on how nutrition can fuel a healthy lifestyle.

Programmed to help

Biomedical informatics grad creates data-driven patient care tools

chs.asu.edu/**2021/programmed**

Basam Alasaly has spent the past five years volunteering to develop medical technology while simultaneously earning both his bachelor's and master's degrees in biomedical informatics in 2021 at the College of Health Solutions.

Why work so hard on extra projects for no pay? "I want to explore as much as I can. I might run into something that will become my future," he said.

Among the projects he's worked on, there's LeukApp which provides individualized treatment recommendations based on a leukemia patient's test results and risk factors. Alasaly also built a web crawler to collect online COVID-19 data for a predictive modeling initiative, created mini-tutorials for Health Solutions students and helped a medical device manufacturer track inventory using blockchain. Now Alasaly is headed into a two-year pre-med program at Thomas Jefferson University. "I want to invent something related to medicine," he said.

Street-smart alum

Putting knowledge to work for health advocacy

chs.asu.edu/**2021/advocacy**

When something looks unhealthy, alumna **Jennifer Moreau**, BS health education and health promotion '18, does the smart thing: She works to change it. To combat local speeding, she petitioned her city council to install speed bumps, which they did after reading a brief she'd written about it as an assignment for her health policy class in the health education and promotion undergraduate program. Next, she won four corporate grants to pay for playground equipment so local kids could have fun exercising.

After moving, Moreau saw that bad roads in her new hometown made people swerve to avoid potholes. Another well-researched brief convinced her town leaders to fix the roads.

Now an online graduate student and teaching assistant at ASU, Moreau says her time as a health promotion student changed her. "Health advocacy is a huge part of my life, and I'll continue to be involved."

Project ECHO

Spreading specialized health skills across Arizona

chs.asu.edu/**2021/echo**

Project ECHO isn't telemedicine. It's telementoring.

In 2017, the College of Health Solutions joined the Project ECHO network, a worldwide effort to spread specialized medical education to rural communities through virtual clinics and online mentoring.

This learning model is a powerful tool that has increased access to specialty care in rural and underserved areas throughout Arizona. We recruit health experts — physicians, nurses, psychologists, psychiatrists, behavioral health clinicians and many others — with specialized knowledge that primary care providers need to treat their patients. Each ECHO group forms around one specialized topic, and we facilitate regular online meetings of providers and experts for training and discussion of cases.

The College of Health Solutions has grown its ECHO groups exponentially over the past two years to address many more specialized health topics, including liver disease, behavioral health integration, early-childhood education, clinical efficacy, early language and literacy, medication-assisted treatment for opioid use disorders, nursing home care, palliative care, human trafficking, and veterans' health. By addressing these important topics with training, we are improving health outcomes across Arizona.

From gridiron to health guru

Jackson He wants to bring football and fitness to China

chs.asu.edu/**2021/guru**

When **Jackson (Peizhang) He** came to America at age 17, this Chinese-born teen didn't speak English, understand football or play a sport of any kind besides ping pong. Today, this College of Health Solutions student is the only Chinese-born player to make the NCAA Football Bowl Subdivision, the pinnacle of college football in the United States, and in 2020, scored his first-ever college touchdown.

Recruited by his high school football coach because of his size, Jackson played in high school and at the University of Jamestown in North Dakota before making his way to ASU where he's studying healthy lifestyles coaching and playing football. "I want to go back to China and help people have a healthy lifestyle," Jackson told azfamily.com. "In China, not a lot of people try to work out, and they don't think working out is good. They don't want to eat right, so I want to go back and change the whole culture."

Learn more about Jackson He at chs.asu.edu/**2021/Jackson**

On a mission

Alumna targets veterans' wellness

chs.asu.edu/2021/military

Before **Dakota Hohenwalter** began pursuing her master's degree in exercise and wellness at the College of Health Solutions, she spent 10 years soldiering, so she understands the strain of military life. "Most often, the biggest sacrifice veterans give during their service is their health. A lot of the missions, training exercises and stressors cause wear and tear on the body," she said.

In fact, government figures showed that 25% of veterans had a service-connected disability in 2019. That's one reason Hohenwalter created the ASU Veteran Wellness Club in 2020, a student organization to help vets socialize and navigate beyond the barracks. Eventually, Hohenwalter hopes to become a professor and researcher focused on injury prevention in tactical populations. "I would love to be a part of preventive studies that help improve the overall musculoskeletal health of service members," she said.

Pitchfork Pantry

Do-good Sun Devils fight COVID-related hunger

chs.asu.edu/2021/pantry

During the height of the COVID-19 pandemic, the use of food banks skyrocketed. To meet increased need on campus, **Pitchfork Pantry**, a student-run food bank that the College of Health Solutions helps manage, expanded beyond its permanent location on the Downtown Phoenix campus and launched pop-up markets on four ASU campuses. At these pop-ups, students were able to pick up two days' worth of groceries in prepackaged bags at no cost.

Along with sustenance, Pitchfork Pantry teaches students about other assistance resources. "We want to let students know there is a lot of support out there for them," said College of Health Solutions senior lecturer **Maureen McCoy**, academic advisor for Pitchfork Pantry.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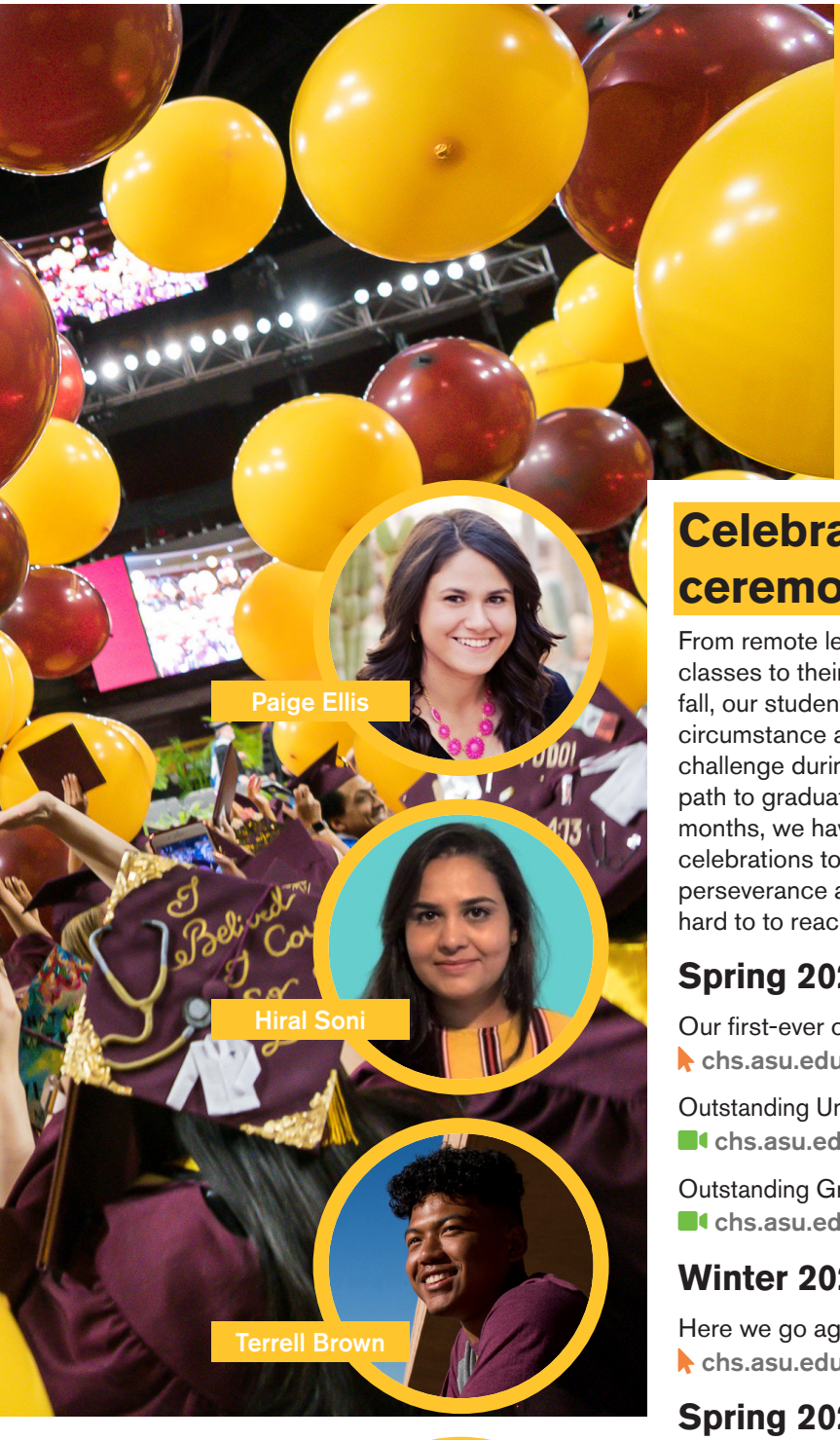


Celebrations and ceremonies

From remote learning to hybrid ASU Sync classes to their return to campus this fall, our students have adapted to every circumstance and worked through every challenge during the pandemic on their path to graduation. Over the past 18 months, we have charted new territory in our celebrations to honor their resilience and perseverance as they kept going and worked hard to to reach their academic goals:

Spring 2020

Our first-ever online graduation celebration.
chs.asu.edu/**2021/spring20**

Outstanding Undergraduate **Paige Ellis**
chs.asu.edu/**2021/Paige**

Outstanding Graduate **Hiral Soni**
chs.asu.edu/**2021/Hiral**

Winter 2020

Here we go again. Online ceremony No. 2.
chs.asu.edu/**2021/winter20**

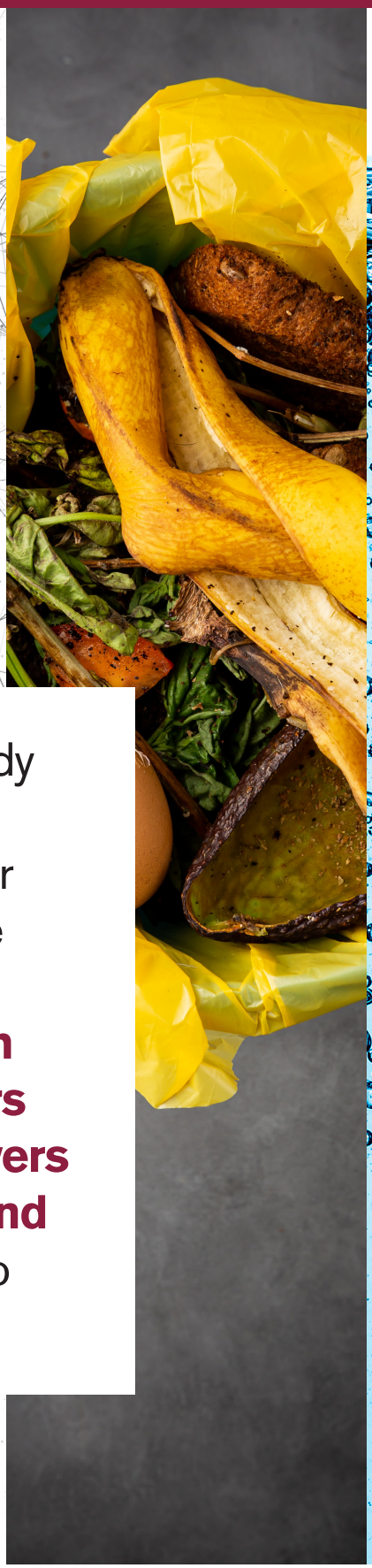
Spring 2021

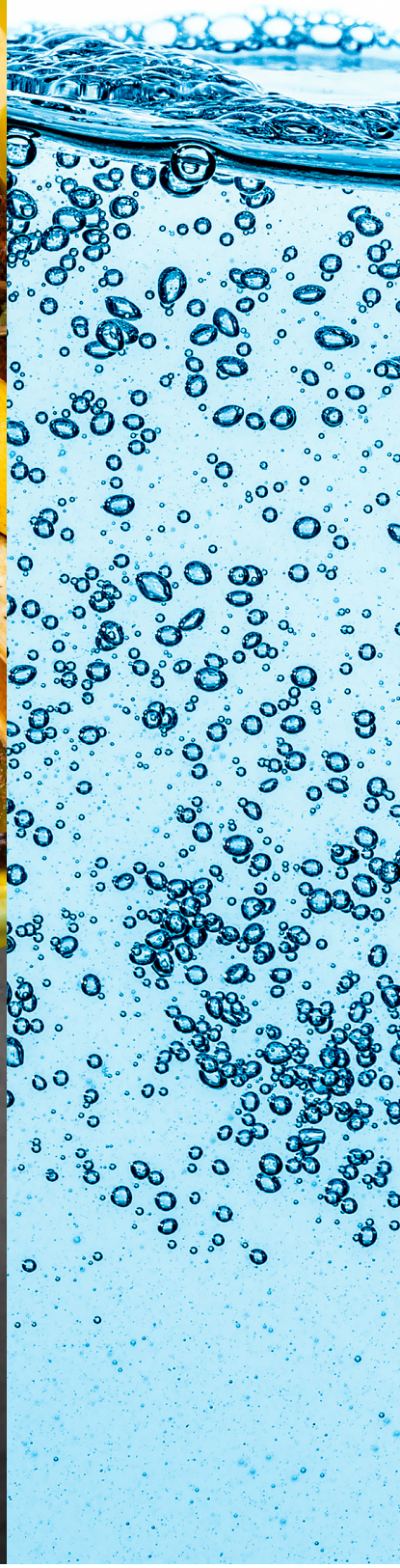
A hybrid of in-person and virtual ceremonies.
chs.asu.edu/**2021/spring21**

Outstanding Undergraduate **Terrell Brown**
chs.asu.edu/**2021/Terrell**

Outstanding Graduate **Clinton Stevens**
chs.asu.edu/**2021/Clinton**

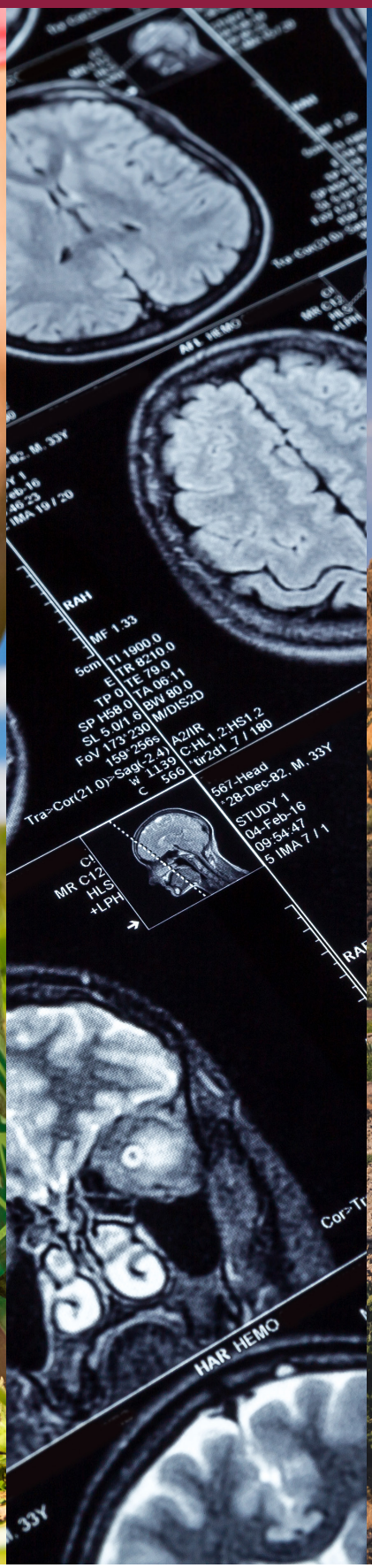
Research and disco





What foods fuel the body best? What makes a healthy neighborhood or workplace? How do we deliver treatment for the best outcomes? **Health Solutions researchers are working on answers to these questions and more** to find the keys to optimal health.

overy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5cm
TI 1900.0
TR 8210.0
E
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TP 0
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SP H58.0
BW 80.0
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FoV 173*230
159*256s
A2/IR
Tra>Cor(21.0)>Sag(-2.4)
C:HL1.2:HS1.2
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+LPH
HAR HEMO

Hydration for health and human performance

Stavros Kavouras

Professor of nutrition

Director of the Hydration Science Lab with the College of Health Solutions

Watering down diabetes

Research tests H2O's disease-prevention power

chs.asu.edu/2021/glucose

"Water is the forgotten nutrient," says hydration researcher **Stavros Kavouras**. He studies water's impact on people with Type 2 diabetes and has found water can be a tool in disease prevention and control.

That's because dehydration activates antidiuretic hormones. In his recent study, Kavouras found that participants had 10–15% higher blood sugar levels when these water-conservation hormones were stimulated by lack of water, suggesting that when the body is dehydrated and conserves water, its ability to process glucose is impaired. Kavouras's work shows water to be an unforgettable nutrient, not only when we're thirsty, but also when we consider how to use its power to manage chronic disease in the future.

Feeling down? Drink up

Research finds link between hydration and mood

chs.asu.edu/2021/drink

Experience has taught many of us that feeling peckish can make you peevish. But, what about being thirsty? Can that impact mood, too?

It can, according to hydration expert **Stravros Kavouras**. While prior studies on this topic have used exercise or heat exposure to get people dehydrated, Kavouras said those can be "quite miserable factors" on their own, so he used saline to induce dehydration in his test subjects. Still, the effects were the same: Dehydration was associated with "bad-mood" emotions, and the effects were more pronounced in women than men.

"We rarely think of hydration as being linked to mood," Kavouras said, but his data shows it is. "If you want to feel better, just drink some extra water."

Breaking a sweat? Bring more water

Why hikers should drink up when heat rises

chs.asu.edu/**2021/sweat**

Do hikers carry enough to drink on a trailblazing outing? Most don't, according to research by sports nutrition scientist **Floris Wardenaar**.

He studied the impact of hiking during hot and moderate days. On average, the trailblazers lost 1% of their body weight in sweat, regardless of conditions, because on hot days they drank more and sweat more but did the opposite on moderate days.

But compared to moderate conditions, heat impaired hiking performance by 11%, reduced aerobic capacity by 7%, increased rate of perceived exertion by 19% and elevated core temperature. Study participants also took about 20 minutes longer to complete the hike during hot conditions which could increase the chance of developing heat-related illness.

"Heat slows you down," Wardenaar explained, something people should take into account as they pack liquids for their next summer hike.

Floris Wardenaar

Assistant professor of nutrition

Director of the Athl*eat* Field Lab with the College of Health Solutions

Dehydration at a glance

New urine color chart simplifies hydration checks for athletes

chs.asu.edu/**2021/dehydration**

For decades, the eight-color urine color chart invented in the 1980s has been used by athletes in locker rooms to self-assess their hydration levels. There's only one problem with that time-tested chart: It requires them to pee in a cup to accurately match the sample to the chart's colors. Time consuming and messy!

A new chart developed and tested by sports nutrition researcher **Floris Wardenaar** aims to be a game changer for those hydration spot checks.

He created a chart that accounts for the length of time spent urinating plus the dilution of urine by water in a standard toilet bowl. After testing his chart against ones commonly used, Wardenaar found only a slight difference in accuracy. That means athletes can match their urine color from the bowl — no cup needed — to reliably assess hydration levels. It probably doesn't matter which chart you use, Wardenaar said, but because his chart allows people to check hydration levels directly at the toilet bowl without first peeing in a cup, this method has wider application for everyone, not just athletes.

Get used to it

Study shows heat acclimation helps athletes compete

chs.asu.edu/**2021/heat**

With a little preparation, athletes can mitigate the effect of rising temperatures on physical performance, according to a study by **Floris Wardenaar**, an assistant professor of nutrition. He had athletes run as far as they could in 12 minutes to assess their exercise capacity. Then he had half the athletes spend an hour biking in a 95-degree environment each day for five consecutive days, while the other group did no additional exercise.

When they faced the running track again, the athletes who exercised showed a 3% increase in physical capacity, while those who didn't showed a 2% decrease. Wardenaar noted that those athletes who trained in heat "became more efficient in warmer, more stressful conditions, which could potentially make a difference in competition," he said.

Exercising in summer heat is an important consideration for nonathletes, too, especially in the Arizona desert where trail hiking is wildly popular year-round, with signs at trailheads warning hikers about the risks of exercising in a hot, dry environment. Updating Arizona's trail signage with this new evidence about heat acclimatization could go a long way to helping keep hikers safe during Arizona's hot summer months.

Interventions

Waste watchers

Targeted education helps households slash food loss

chs.asu.edu/**2021/waste**

The U.S. wastes roughly 30% of the total available food supply annually at the consumer and retail level. **Chris Wharton**, a sustainability scientist and associate professor of nutrition, has found that a little targeted education can help households slash food waste.

With a grant from the City of Phoenix and the **Rob and Melani Walton Sustainability Solutions Service** initiative, Wharton enlisted 53 Phoenix households, trained residents to track food waste and had people review educational materials on the **Waste Watchers** website they developed as part of the study. "Some people value managing their food and what they eat, some care about how much their food is costing them, and some care about environmental impact," Wharton said. After receiving messages aligned to each of these motivators, households cut food waste an average of 28%.

The study aimed to raise awareness about the consequences of our food waste and encourage lasting behavior change, Wharton said, because most of us don't really understand the impact food waste has on our health, finances and the environment.

"When you eat food, sometimes you have a feedback mechanism which makes you feel better or worse and in the long term, it either supports health or can detract from your health," said Wharton. "There are feedback mechanisms in how we treat food in terms of intake, but the waste, there's not really a feedback mechanism."

Learn more about Wharton's work at chs.asu.edu/**2021/food**

Back to nature

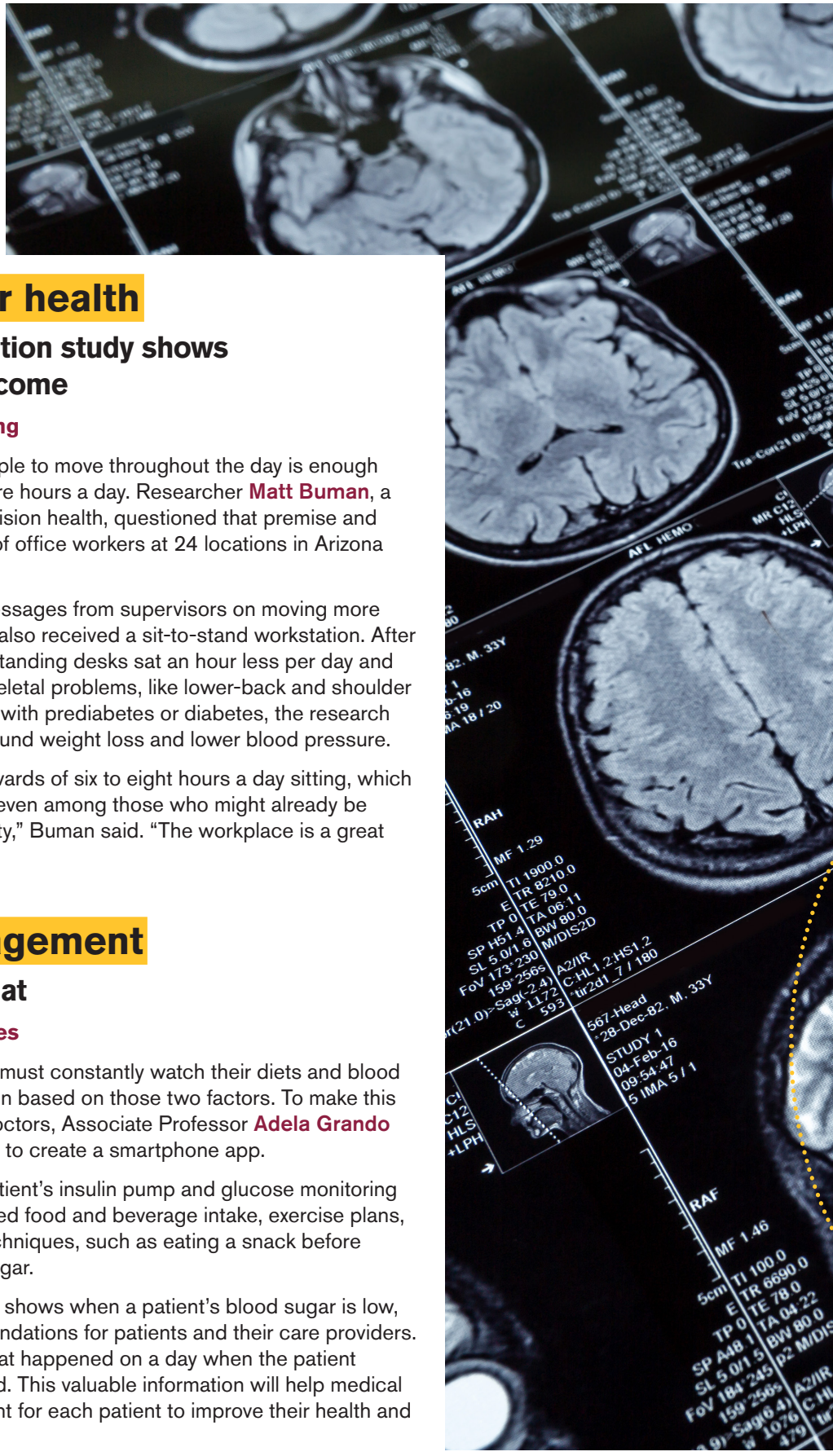
Clinical trial studies a plant-based smoking-cessation medication

chs.asu.edu/**2021/nature**

Plenty of people have quit smoking with the synthetic drug varenicline, the generic name of Chantix, because it reduces cravings for cigarettes by hitting the same dopamine receptors in the brain as nicotine. However, users report some unpleasant side effects, such as sleep disturbance, nausea and headaches.

Now a national study is investigating the potential of cytisinicline, a plant-based drug, to help smokers kick the habit. **Scott Leischow**, a leading tobacco researcher and the College of Health Solutions' executive director of clinical and community translational science, is directing the clinical trial site in Arizona, one of 15 sites across the U.S. researching cytisinicline's effectiveness. So far, findings show it to be as effective as varenicline with very few side effects, but this national clinical trial aims to further assess its safety and efficacy.

"Recruitment for the study is complete, and we're following participants to determine if this new product will become the first new medication in over 10 years to help smokers quit," Leischow said.



Standing up for health

Sit-to-stand workstation study shows improved health outcome

chs.asu.edu/**2021/standing**

Some people think telling people to move throughout the day is enough to combat sitting for six or more hours a day. Researcher **Matt Buman**, a professor and director of precision health, questioned that premise and conducted a year-long study of office workers at 24 locations in Arizona and Minnesota.

All of the workers received messages from supervisors on moving more throughout the day, while half also received a sit-to-stand workstation. After 12 months, the workers with standing desks sat an hour less per day and experienced fewer musculoskeletal problems, like lower-back and shoulder pain. Among the 100 workers with prediabetes or diabetes, the research team found an average 7.5-pound weight loss and lower blood pressure.

“American workers spend upwards of six to eight hours a day sitting, which can contribute to poor health even among those who might already be getting enough physical activity,” Buman said. “The workplace is a great place to target that behavior.”

Diabetes management

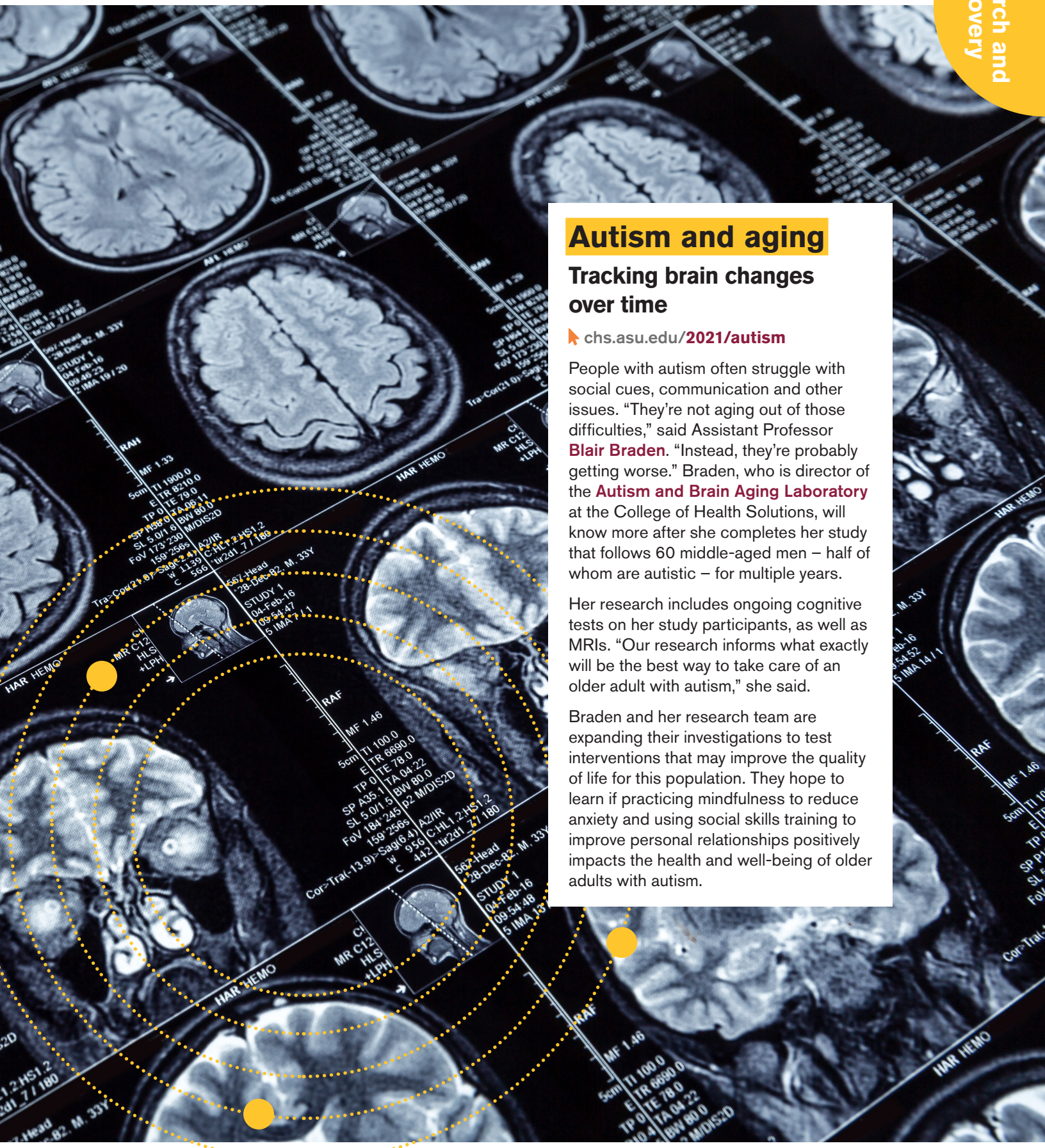
There’s an app for that

chs.asu.edu/**2021/diabetes**

Patients with Type 1 diabetes must constantly watch their diets and blood glucose levels, then take insulin based on those two factors. To make this easier for patients and their doctors, Associate Professor **Adela Grando** joined forces with Mayo Clinic to create a smartphone app.

The app tracks data from a patient’s insulin pump and glucose monitoring systems as well as self-reported food and beverage intake, exercise plans, and diabetes management techniques, such as eating a snack before exercise to avoid low blood sugar.

Computer analysis of the data shows when a patient’s blood sugar is low, the reason why, and recommendations for patients and their care providers. “Now we are able to know what happened on a day when the patient didn’t do so well,” Grando said. This valuable information will help medical providers personalize treatment for each patient to improve their health and quality of life.



Autism and aging

Tracking brain changes over time

chs.asu.edu/2021/autism

People with autism often struggle with social cues, communication and other issues. “They’re not aging out of those difficulties,” said Assistant Professor **Blair Braden**. “Instead, they’re probably getting worse.” Braden, who is director of the **Autism and Brain Aging Laboratory** at the College of Health Solutions, will know more after she completes her study that follows 60 middle-aged men – half of whom are autistic – for multiple years.

Her research includes ongoing cognitive tests on her study participants, as well as MRIs. “Our research informs what exactly will be the best way to take care of an older adult with autism,” she said.

Braden and her research team are expanding their investigations to test interventions that may improve the quality of life for this population. They hope to learn if practicing mindfulness to reduce anxiety and using social skills training to improve personal relationships positively impacts the health and well-being of older adults with autism.

WalkIT AZ

Variable goals. A step in the right direction?

chs.asu.edu/2021/walk

Fitness goals: Many people give up on them. To turn quitters into walkers, Associate Professor **Marc Adams** is testing the effectiveness of variable goals through WalkIT AZ, a behavior-change program.

Adams recruited 500 insufficiently active adults and gave all fitness monitors. Among study participants, half had a 10,000-step daily goal, while half got different goals sent to them each day. Data from the fitness monitors went to Adams to determine whether study participants earned a daily reward.

Adaptive goals "mold to the participants," Adams said, adding that work, travel, illness and life events all "affect our physical activity, and our interventions should try and account for those things." This ongoing study continues through 2021.

Professor Julie Liss leads a discussion with her team at the Aural Analytics offices at SkySong, the ASU Scottsdale Innovation Center.

Speech: A window to brain health

Faculty start business based on their research

chs.asu.edu/**2021/window**

Professors **Visar Berisha** and **Julie Liss**, researchers in the field of speech science, are on a mission to reverse engineer what's happening in the brain just from the way that someone speaks. Toward this goal, they are combining their research on speech analytics and how brain damage or disease manifests in speech.

Liss and Berisha have for years recorded and analyzed the speech of patients with a variety of neurological diseases to research correlations between brain disorders and speech. They used this data to develop a system which allows patients to easily and regularly record themselves speaking using a phone app. Patients upload their samples to a cloud-based program to detect changes that could signal the progression of disease.

Because their platform is accurate, easy to use and more advanced than other speech analytics technology, industry experts encouraged them to commercialize their system. They launched a company called **Aural Analytics** to scale up their technology and make it available worldwide. So far, they have raised several million dollars in grant and venture capital funding and employ a team of 30 people to realize this goal. Deployed in eight languages and on four continents, clinical decision makers across the globe now have a way to get better, more powerful data on the neurological health of their patients.

Preventing health care waste

An ounce of prevention, a pound of savings

chs.asu.edu/2021/preventing

About one third – $1.1 billion of America's 2017 health care spending – likely failed to deliver better outcomes, according to National Academy of Sciences research. Associate Professor **Mac McCullough** and Faculty Research Associate **Matthew Speer** think this number underestimates the problem.

"Health care spending that does not actually make us any healthier can be considered waste," McCullough and Speer say. Examples of health care spending waste abound, they say, citing cases of patients who undergo the same test repeatedly because health care providers don't share information with each other, or when a hot day aggravates a person's congestive heart failure, causing a $50,000 ER visit, when a $200 window air unit could have prevented the episode.

"Our health care system spends untold sums to treat health conditions that could have been prevented, often through non-clinical fixes," they said. Their work aims to shine a light on these situations with the ultimate goal of reducing wasteful spending.

Food for thought

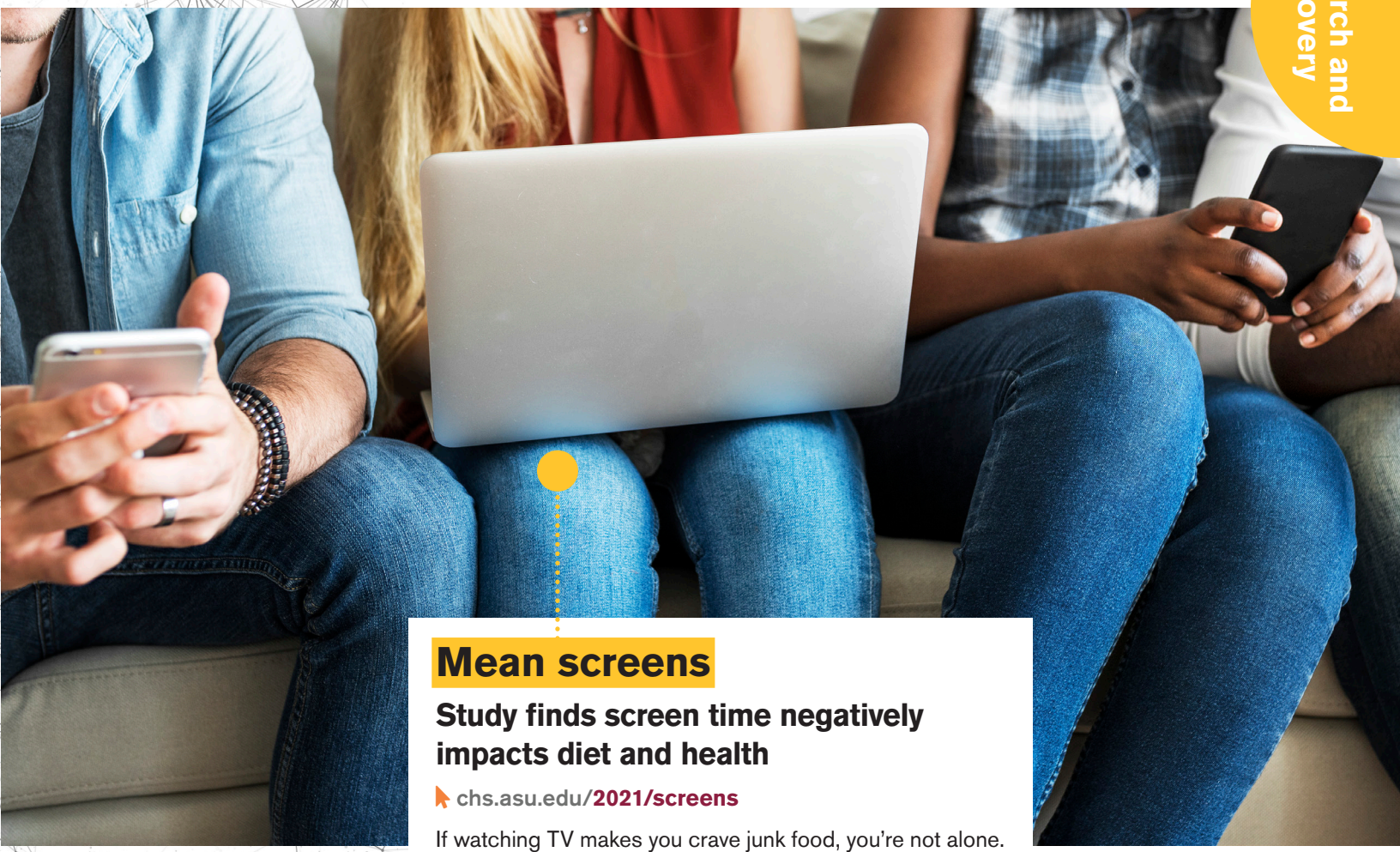
Study finds higher BMI among children living close to convenience stores

chs.asu.edu/2021/children

Living near the chips, candy and soft drinks that line convenience store shelves may be bad for children's health and lead to higher rates of obesity, according to a long-range study by **Punam Ohri-Vachaspati**, a professor of nutrition. She followed two groups of low-income New Jersey children, aged 3 to 15, over two- to five-year periods. She also recorded each child's weight at the beginning and end of the study, plus she had a team of graduate students analyze food outlets surrounding the children's homes multiple times throughout the research.

The study showed that as a child's exposure to convenience stores increased over time, so too did unhealthy changes in BMI. Exposure to an additional convenience store within a mile of a child's home over 24 months resulted in 11.7% greater likelihood of a higher-than-average BMI, while kids exposed to an additional small grocery store within a mile over 24 months saw a 37.3% less chance of being in a higher BMI category.

"If we see that a food environment has an impact on children's health, we can design policies to mitigate the negative impacts," Ohri-Vachaspati said. She has shared her work with Arizona legislators and national organizations to help them create health policy that is data-driven and applicable to a wide range of disciplines, including nutrition and urban planning.



Mean screens

Study finds screen time negatively impacts diet and health

chs.asu.edu/**2021/screens**

If watching TV makes you crave junk food, you're not alone. **Chris Wharton**, a professor of nutrition, studied whether time spent in front of various screens – TVs, computers, smartphones and tablets – impacted our health-related behaviors. He found that heavy users of screens — those who use screens an average of 17.5 hours per day — reported the least healthful dietary patterns and the poorest health-related characteristics compared with moderate users (averaging 11.3 hours per day) and light users (seven hours of screen use daily).

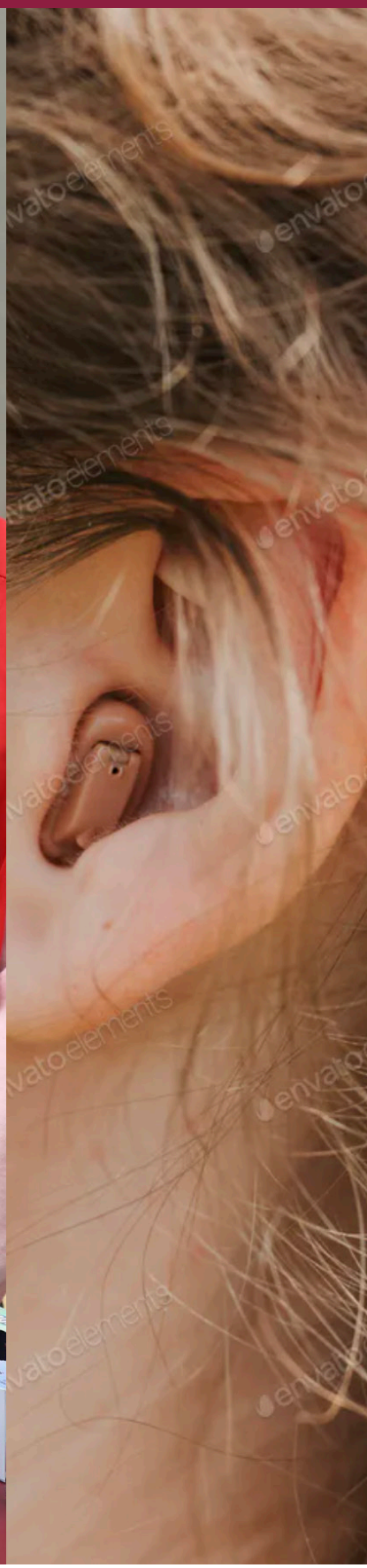
For the study, Wharton queried participants about devices, screen time, dietary habits, sleep, stress, self-rated health, physical activity and body mass index. Results showed that hours of screen time mattered, and so did types of screens. For instance, heavy users of smartphones reported the lowest quality of sleep. Additionally, people who binge-watch multiple episodes of favorite TV shows in one sitting had less healthy dietary patterns, including frequent fast-food consumption.

"Screens have come to dominate us, and they drive real problems in our health," Wharton said. His work lays the foundation for future research on screen time interventions because it gives researchers insight into which negative health effects are associated with which types of devices.

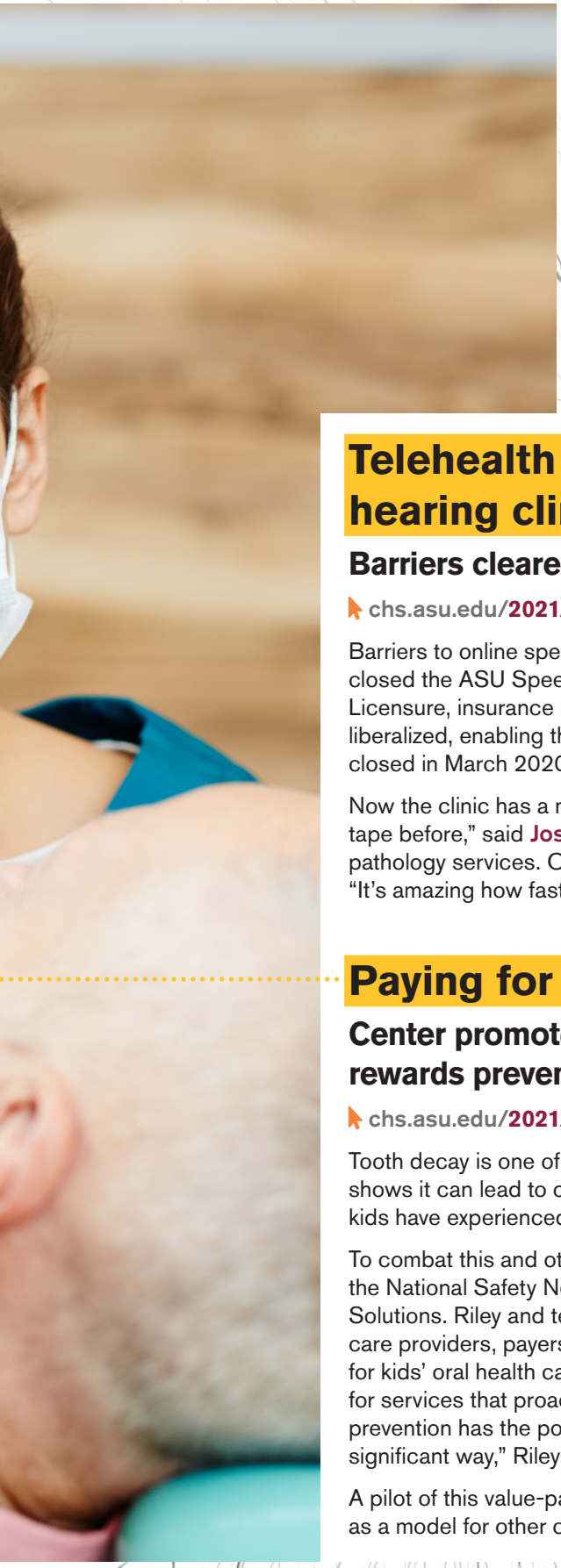
Community and co

Research in action for better outcomes. It's the center of everything we do at the College of Health Solutions, and our **strong connections to the community** are key as we work together to make a difference by improving health.

llaboration



Community and collaboration



Telehealth for speech and hearing clinic

Barriers cleared for online therapy

chs.asu.edu/**2021/telehealth**

Barriers to online speech therapy came down quickly once the pandemic closed the ASU Speech and Hearing Clinic's doors to in-person services. Licensure, insurance reimbursement and privacy requirements were liberalized, enabling the clinic to implement telepractice only a month after it closed in March 2020.

Now the clinic has a new way to serve its clients. "There was a lot of red tape before," said **Joshua Breger**, director of the clinic's speech-language pathology services. Once the pandemic disrupted patient services, he added, "It's amazing how fast that got out of the way."

Paying for value

Center promotes oral health insurance that rewards prevention

chs.asu.edu/**2021/value**

Tooth decay is one of the most preventable chronic diseases, and research shows it can lead to other health problems. Worse, more than half of Arizona's kids have experienced tooth decay before kindergarten.

To combat this and other health challenges, Professor **William Riley** launched the National Safety Net Advancement Center at the College of Health Solutions. Riley and team are building a statewide coalition of oral health care providers, payers and policy leaders to implement value-based payment for kids' oral health care. Under this system, insurance pays at a higher rate for services that proactively prevent oral disease. "Putting the emphasis on prevention has the potential to improve the health of our communities in a very significant way," Riley said.

A pilot of this value-pay system is currently underway which could then serve as a model for other communities.

EASE up

Mentorship program helps students with autism succeed

chs.asu.edu/**2021/EASEup**

Interpersonal skills can be a challenge for people on the autism spectrum – a disorder characterized by difficulty with communication – but those are exactly the skills that help students get internships and land jobs after graduation. That's why College of Health Solutions Clinical Professor **Maria Dixon** created a peer mentoring program to help students with autism work on their social skills.

Called the **Employment Assistance and Social Engagement** peer mentoring program, the initiative is a joint project between the Fulton Schools of Engineering and the College of Health Solutions.

"Though these students possessed the academic skills, they struggled in other areas that affected their ability to be successful," Dixon said. Students learn to navigate interactions in the classroom setting as well as how to advocate for themselves and get job search assistance.

During the COVID-19 pandemic, EASE shifted online with two Health Solutions student mentors serving five students. That was the pilot phase, and it proved so successful that the program has expanded to serve 10 engineering students during fall 2021.

Their best shot

Students support ASU's vaccination efforts

chs.asu.edu/**2021/vaccine**

When the call went out for volunteers to help with ASU's COVID-19 vaccination effort in January 2021, College of Health Solutions students filled almost a fourth of the 480 available slots in less than 12 hours. Some worked as greeters at the vaccination facility on the Tempe campus, some helped people with paperwork, and all supported the logistics of getting vaccine shots into the arms of 11,000-plus eligible ASU community members who came to the Sun Devil Fitness Center vaccination site.

"I volunteered for vaccination duty to be a part of something bigger than me," said senior nutrition student Bethany Liedike. "I have had the luxury of staying safe at home for the majority of the pandemic, and I was excited to be able to lend a helping hand."

Tamiko Azuma, College of Health Solutions assistant dean of undergraduate education and an associate professor, received her vaccine at the ASU site and said the operation was remarkable. "I was so impressed with how smoothly everything ran, from the initial intake to the end debriefing. All of the volunteers were friendly and seemed excited about being a part of this important process," she said.


SOFT900
100
Nitrile
Gloves
901

Perfect pitch

Clinic helps transgender clients match voice to appearance

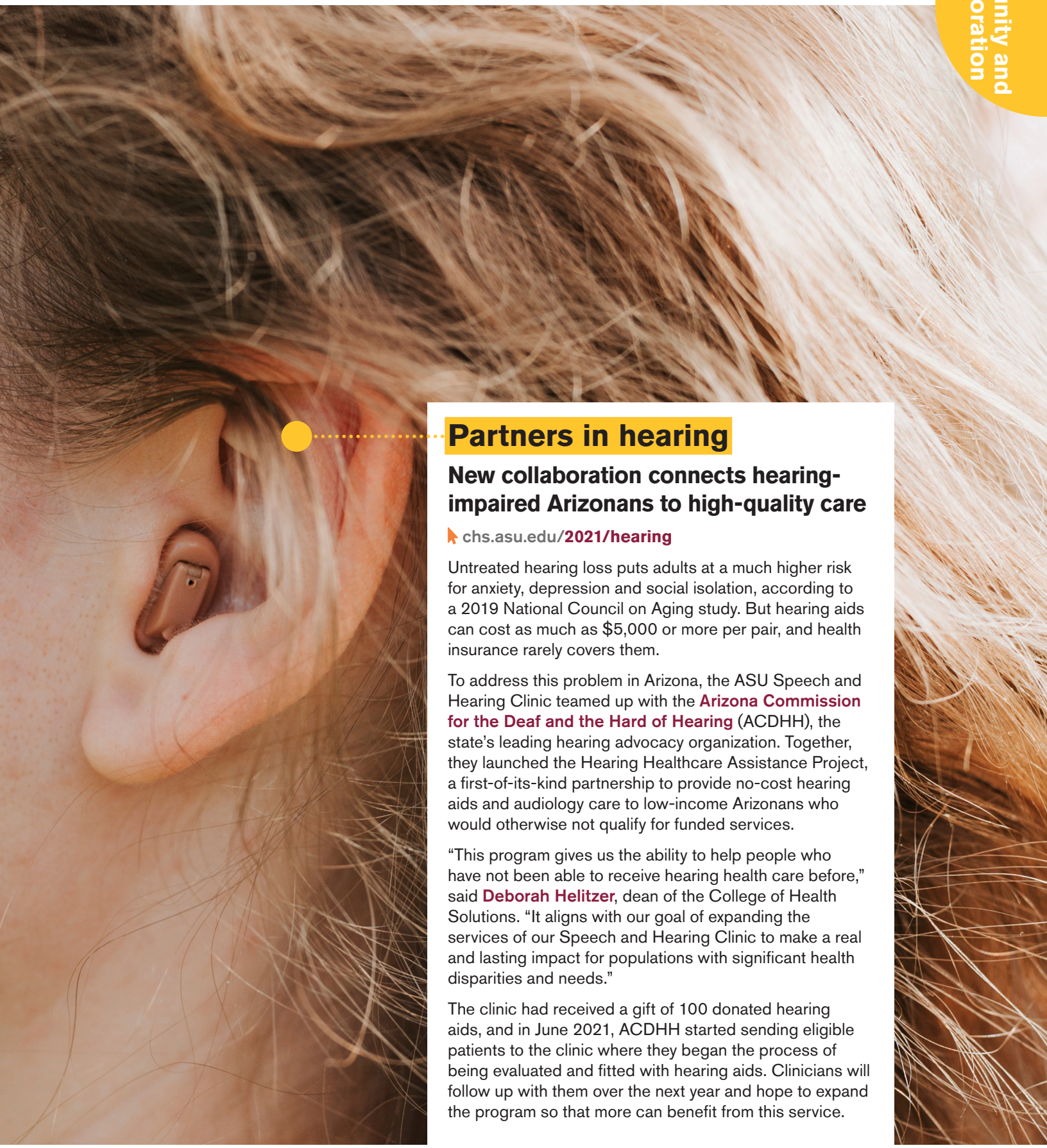
chs.asu.edu/**2021/voice**

An average woman's voice pitch runs between 155 and 245 hertz. For men, the pitch is 85 to 180 Hz. That means a transgender person may have a voice that's inconsistent with their identity and appearance.

"If our voice doesn't reflect our authentic self, then we're not completely seen," said **Myra Schatzki**, a clinical associate professor in speech and hearing science. "For transgender individuals, if voice and physical appearance don't match, this may place them in a vulnerable position of getting hurt … so it's important for us to support people seeking voice affirmation services."

Schatzki began offering voice therapy for transgender patients in 2017 at the ASU Speech and Hearing Clinic. The interest has grown every year since, and in 2020, she expanded services to clients at the Phoenix Children's Hospital Mercy Gilbert campus.

Learn more about this program at chs.asu.edu/**2021/pitch**



Partners in hearing

New collaboration connects hearing-impaired Arizonans to high-quality care

chs.asu.edu/**2021/hearing**

Untreated hearing loss puts adults at a much higher risk for anxiety, depression and social isolation, according to a 2019 National Council on Aging study. But hearing aids can cost as much as $5,000 or more per pair, and health insurance rarely covers them.

To address this problem in Arizona, the ASU Speech and Hearing Clinic teamed up with the **Arizona Commission for the Deaf and the Hard of Hearing** (ACDHH), the state's leading hearing advocacy organization. Together, they launched the Hearing Healthcare Assistance Project, a first-of-its-kind partnership to provide no-cost hearing aids and audiology care to low-income Arizonans who would otherwise not qualify for funded services.

"This program gives us the ability to help people who have not been able to receive hearing health care before," said **Deborah Helitzer**, dean of the College of Health Solutions. "It aligns with our goal of expanding the services of our Speech and Hearing Clinic to make a real and lasting impact for populations with significant health disparities and needs."

The clinic had received a gift of 100 donated hearing aids, and in June 2021, ACDHH started sending eligible patients to the clinic where they began the process of being evaluated and fitted with hearing aids. Clinicians will follow up with them over the next year and hope to expand the program so that more can benefit from this service.

Building for the future

New downtown facility connects campus and community

chs.asu.edu/2021/building

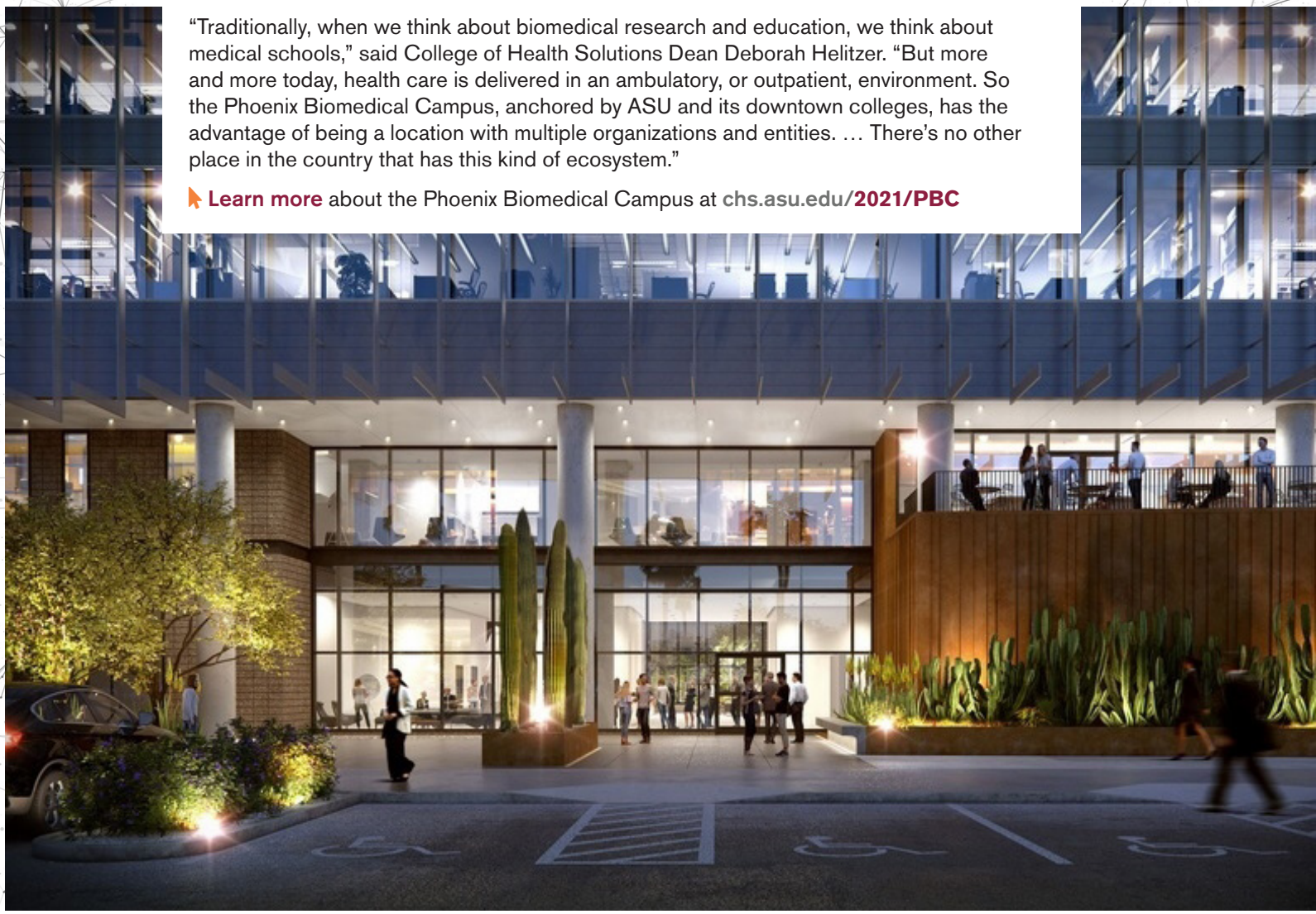
College of Health Solutions researchers have taken up residence on the second and third floors of the new Wexford Phoenix Biomedical Campus building, a 112,000-square-foot, state-of-the-art-facility in Downtown Phoenix built as part of a collaboration among ASU, the Wexford Science + Technology development company and the City of Phoenix.

Arizona universities occupy half the building, with the College of Health Solutions as the largest tenant; the other half holds private-sector companies. The project brings together academia, biomedical entrepreneurs and the community in an innovative space where they can collaborate on scientific research that facilitates new biomedical industry and economic development.

Research conducted at the site currently focuses on hydration, smoking cessation, cancer detection, obesity prevention and other health projects. “The research here is really going to take us to the next step in doing what’s best for the patients, and that’s the people of Arizona,” said Frank LoVecchio, medical director of clinical and community translational research at the College of Health Solutions.

“Traditionally, when we think about biomedical research and education, we think about medical schools,” said College of Health Solutions Dean Deborah Helitzer. “But more and more today, health care is delivered in an ambulatory, or outpatient, environment. So the Phoenix Biomedical Campus, anchored by ASU and its downtown colleges, has the advantage of being a location with multiple organizations and entities. … There’s no other place in the country that has this kind of ecosystem.”

Learn more about the Phoenix Biomedical Campus at chs.asu.edu/2021/PBC



Advancing translational research

New medical director connects college to greater community

chs.asu.edu/**2021/translational**

Dr. Frank LoVecchio has joined the College of Health Solutions as a clinical professor and the medical director of clinical and translational research, a new position that solidifies the college's commitment to community-based research. An experienced physician with long-time connections across the Phoenix metropolitan area, Dr. LoVecchio will provide medical oversight for clinical health research and foster collaborations both within the university and in the greater community that employ translational science, which reduces the time from research discovery to clinical practice.

"Dr. LoVecchio's expertise in clinical trials will be invaluable as we collaborate across ASU and with community partners on solutions that help people stay healthy, improve their health and manage chronic disease," said College of Health Solutions Dean Deborah Helitzer.

An attending physician in the Department of Medical Toxicology at Banner University Medical Center in Phoenix, Dr. LoVecchio is board-certified in emergency medicine, medical toxicology, medical forensics and addiction medicine. In addition, he holds research scholar and professorships at both the University of Arizona College of Medicine and the Creighton University School of Medicine in Phoenix.

Healthy partnership

Teaming up with Mayo in a new research facility

chs.asu.edu/**2021/HFC**

In January 2021, ASU opened its Health Futures Center on the north Phoenix campus of Mayo Clinic. It's the new home of our biomedical informatics faculty and the ASU Alliance for Health Care, the latest development in a nearly two-decades-long collaboration between ASU, the nation's most innovative university, and Mayo, a recognized world leader in patient care and medical research.

The College of Health Solutions collaborates with several other ASU colleges and schools in this 150,000 square-foot building that is connected to the Mayo Clinic Hospital campus through a desert pathway. Inside the new facility are wet and dry labs, a movement lab with cardio and strength research capabilities, learning studios, a demonstration kitchen and a 300-person auditorium for continuing education and events. The site also hosts MedTech Accelerator, an initiative that supports early-stage IT companies specializing in medical devices and health care.

The mantra of the new facility is to "innovate, innovate, innovate," said ASU President Michael Crow when the center opened. "We want this campus, this facility, the new Health Futures Center to be a part of that catalytic process," he added.

Mind over money matters

Alumna's behavioral health approach empowers economically disadvantaged groups

chs.asu.edu/2021/global

"While economic advancement improves mental health, improved mental health also increases the ability for economic stability," said **Danielle Gold**, who earned her doctorate in behavioral health in 2014. This awareness is something Gold picked up during her doctoral studies and now applies as executive director of Fearless Planet, a non-profit organization she launched in 2004.

Until Gold started her doctoral work, Fearless Planet was focused solely on fostering entrepreneurship and income-generation opportunities for the economically disadvantaged in developing countries. While at ASU, Gold realized that these vulnerable populations often suffer from past trauma that can impede workforce success.

This understanding inspired Gold to pilot a vocational training program that also delivered psychosocial support to a group of Afghan, Syrian and Congolese women in a refugee camp in Greece. "The results of that project confirmed for me how powerful it can be to combine skill training and income generation with emotional support," she said.

Her current work continues this model, with a new group of refugee women in Greece learning sewing skills to open up a business offering clothing alterations and repair while also attending twice-monthly emotional support sessions. She has also created an annual symposium to bring together groups of women from the United States and refugee women living in Greece for a two-day program of sharing and learning about the refugee experience.

The more, the mightier

A new community alliance for better outcomes during a pandemic and beyond

chs.asu.edu/2021/community

Health Solutions professors **William Riley** and **George Runger** teamed up with Arizona Health Care Cost Containment System's medical director Satya Sarma to help vulnerable groups weather hardships after a positive COVID-19 diagnosis. Many frontline workers in low-paying jobs, for example, often have no sick pay or an easy way to self-isolate at home, so the three launched the COVID Community Action Alliance and work with local agencies and health care providers to leverage the resources of private and public entities to help people in need. At the height of the pandemic, the alliance provided many support tools, including rent assistance, a place to quarantine, groceries and more, depending on client needs.

Now, Sarma sees potential for the COVID Community Action Alliance framework to support assistance and care with other health issues. "We see this as a model that can help sustain health care beyond COVID," she said. "With the right training, community health workers can be those navigators, can be those connectors and can be the educators communities need."

College of
Health Solutions
Arizona State University

A leader in health

The College of Health Solutions at Arizona State University translates scientific health research and discovery into practice. Its programs **prepare students to address the challenges facing our populations to stay healthy, improve their health, and manage chronic disease** — all toward improving health outcomes.

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