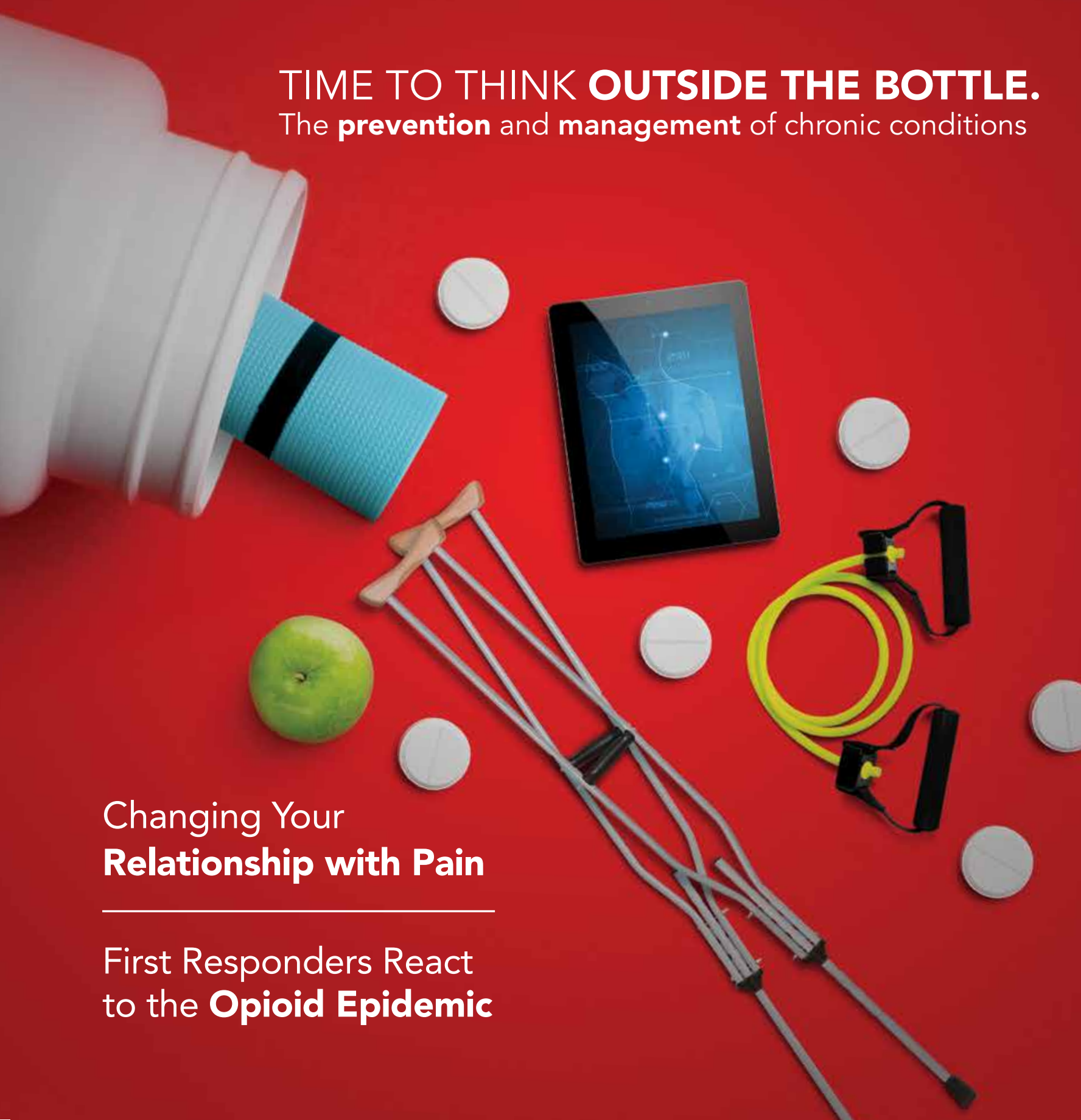


TIME TO THINK **OUTSIDE THE BOTTLE.**  
The **prevention** and **management** of chronic conditions



Changing Your  
**Relationship with Pain**

---

First Responders React  
to the **Opioid Epidemic**

# CONTENTS

FALL/WINTER 2017



22



24



20



32

1 **From the Dean**  
Dr. Anthony Delitto

2 **Giving**  
Greta Daniels

3 **Calendar of Events**

4 **Perspective**  
Patty Kummick

4 **Department News**

5 **Alumni News**

6 **Faculty News**

9 **Student News**

10 **Alumni Profile**  
Geoffrey Balkman

12 **Clinical Instructor Profile**  
Brian Caricato

14 **FACETS Feature**  
Chronic Conditions. Chronic Pain. Chronic Abuse. And Solutions.

18 **Sports Medicine and Nutrition**  
Neuromuscular Research Lab: Building on a Legacy

20 **Communication Science and Disorders**  
Managing the Invisible Disability

22 **Health Information Management**  
iMHere 2.0: Removing Barriers to Care

24 **Physical Therapy**  
The Value of Health Services Research

26 **Occupational Therapy**  
Occupational Therapists: Part Detective, Part Educator, All Heart

28 **Clinical Rehabilitation and Mental Health Counseling**  
Changing Your Relationship with Pain

30 **Emergency Medicine**  
First Responders React to the Opioid Epidemic

32 **The Real World**  
Nick Oleson

**Publisher**  
Dr. Anthony Delitto

**Executive Editor**  
Patty Kummick

**Writing and Design**  
Red House Communications

**Photography**  
Janelle Bendycki Photography



University of Pittsburgh





### *Greetings,*

With our ongoing focus on quality clinical education and training, it's not surprising that our students and clinical instructors find that most of our clients afflicted with chronic conditions are also dealing with pain. Successfully managing pain becomes critical if we are to return our clients to their desired levels of function and participation. Throughout SHRS, we are obligated not only to teach basic principles of pain and pain management, but also to have our graduates step into a health care team and positively contribute to pain management strategies as part of an overall plan of care. These basic principles have existed within all of our professions and have been largely unchanged over several decades.

What has changed drastically is the health care landscape in which our graduates will be practicing. It has become increasingly clear that the American health care system has lost its way in finding the right balance between pharmacological and non-pharmacological approaches to pain management. Hence today's opioid epidemic. Overuse of opioids has had a cascading series of devastating effects on communities, resulting in numerous elected state and federal officials declaring the opioid epidemic a national crisis.

SHRS has responded to addressing the epidemic through both education and research. First, we recognize that our educational efforts must now address this crisis and integrate more up-to-date approaches to pain modeling—which we now include in all entry-level professional curricula.

Second, our educational efforts must address our community stakeholders. Our cover story on page 14 highlights an example of one such approach in which Dr. Nancy Baker, associate professor in the Department of Occupational Therapy, and others have developed a novel pain management educational program specifically for clinicians.

Third, we realize that the patients we see might already be experiencing abuse issues, whether it's from opioids or other substances such as alcohol. In this regard, we now include "Screening, Brief Interventions, and Referral to Treatment" (SBIRT) training for substance use problems. SBIRT has been incorporated into our Physician Assistant Studies and Doctor of Physical Therapy programs and provides guidance to our students on how to approach the issue of substance abuse with our clientele.

Finally, our efforts in research, which have always incorporated pain-relief measures, must now more directly address the crisis within the U.S. Recent guidelines related to painful musculoskeletal conditions have recommended following non-pharmacological approaches first in pain management strategies. Yet we see overuse of pharmacological treatments (opioids) while non-pharmacological approaches (rehabilitation) go vastly under-utilized. SHRS researchers are using health services research techniques to document the relationship between the under-utilization of rehabilitation services and patient outcomes (see our Physical Therapy feature on page 24) as well as comparative effectiveness studies of non-pharmacological approaches (see our Clinical Rehabilitation and Mental Health Counseling feature on page 28).

Unfortunately, pain is ubiquitous in many of the conditions afflicting our clients. And managing pain is of paramount importance in helping our clients participate fully in their lives. Our clients are not being well-served when we rely so heavily on opioids and other pharmacological interventions. The good news is that our educational efforts will allow present and future practitioners to become better team members in dealing with addicted patients while our innovative research endeavors continue to validate and support effective non-pharmacological alternatives.

Anthony Delitto  
Professor and Dean



# giving



Stanislaw Ulam, Polish-American mathematician and member of the Manhattan Project, once remarked, “It is still an unending source of surprise for me to see how a few scribbles on a blackboard or on a sheet of paper could change the course of human affairs.”

But that is exactly what Ulam was able to do. His calculations helped to unlock the mysteries of thermonuclear reactions, led to the development of the atomic bomb, and changed the world as we knew it. Likewise, the scribbles of scientific researchers at the University of Pittsburgh have led to equally significant outcomes, such as the development of a vaccine for polio, pioneering innovation in television, and the establishment of Pittsburgh as the world’s capital for organ transplantation.

The School of Health and Rehabilitation Sciences is also making waves in health care research. Our faculty, researchers, and students are examining the health care industry, the theory and method of clinical practice, and new corners of scientific discovery and innovation to ensure all people receive the best possible care and are provided with the opportunity to live full, independent lives, regardless of disability or health.

Whether that means discovering new therapies and treatments to increase mobility or cognitive function in older adults that allow them to live independently in their homes longer, or the development of new technologies, like the PneuChair, that enable people with disabilities to participate in everyday activities, the research initiatives spearheaded by SHRS faculty and students may impact you or a loved one in very real and tangible ways.

SHRS has long been respected for its academic programs and high-quality graduates who serve their patients and communities around the world. Today, SHRS is the driver behind critical research that has the potential to, as Ulam remarked, change the course of human affairs, as a catalyst for a world free of barriers and an engine for ideas that allow all people, regardless of health, to participate in life to the fullest.

We are so grateful for the individuals and organizations whose visionary support have made it possible for SHRS to explore new depths in rehabilitation treatment. As I travel and visit with many of you, I look forward to sharing more information about SHRS’s exciting research portfolio. I hope that you will join fellow alumni and friends in supporting this important work on the University of Pittsburgh’s second annual Pitt Day of Giving on February 28, 2018, or at any time during the year.

Thank you for taking a moment to read my humble scribbles and to consider the breadth of impact that SHRS research may have on you, a member of your family, your community, and people around the globe.

Hail to Pitt,

A handwritten signature in cursive script that reads "Greta Daniels".

Greta Daniels  
Director of Development

412-383-4084, [grd17@pitt.edu](mailto:grd17@pitt.edu)  
4049 Forbes Tower, Pittsburgh, PA 15260



# SHRS Appointment



Emily Mente recently joined the Internal and External Relations team at SHRS as alumni relations coordinator. Before coming to SHRS, Mente worked in a similar capacity at Winchester Thurston School in Shadyside. A Pittsburgh native who returned to the Steel City after attending Marlboro College in southern Vermont where she studied Political Theory and American Studies, Mente was a research associate at Pitt's Laboratory of Neurocognitive Development following graduation from Marlboro.

At SHRS, Mente will work to enhance existing alumni programming and create new opportunities for alumni involvement, engagement, and recognition. If you are interested in supporting our alumni initiatives, visit the Alumni page at [shrs.pitt.edu](http://shrs.pitt.edu) and complete the "Keep in Touch" or "Volunteer with Us" questionnaires. Any alumni-related questions may be directed to her at [emm191@pitt.edu](mailto:emm191@pitt.edu) or 412-383-4320.

## Calendar of Events

### OCTOBER

Sunday, October 22, 2017

**Food and Nutrition Conference and Expo of the Academy of Nutrition and Dietetics Alumni Reception**, Hyatt Regency Chicago, 151 E. Upper Wacker Drive, Chicago, Ill., 7–9:30 p.m., held in conjunction with the AND annual conference. For details, contact Emily Mente, alumni relations coordinator, at [emm191@pitt.edu](mailto:emm191@pitt.edu).

Saturday, October 28, 2017

**SHRS Fall Open House**, University Club, Pittsburgh, 10 a.m.–1 p.m. For more information or to register, contact Nicole Skellie, recruitment manager, at [skellienny@pitt.edu](mailto:skellienny@pitt.edu).

### NOVEMBER

Thursday, November 2, 2017

**SHRS Healthy Living Symposium for Pitt Veterans**, McCarl Center, Posvar Hall, University of Pittsburgh, noon–6 p.m., a wellness fair highlighting interactive nutrition education and cooking demonstrations for student veterans and their families. Presented by the Student Dietetic Association and Graduate Student Dietetic Association (gSDA) and sponsored by Pitt's Office of Veterans Services. Contact [gSDAph@gmail.com](mailto:gSDAph@gmail.com) for details.

Thursday, November 2, 2017

**2017 Matthews-Rubin Lecture**, University Club, Pittsburgh, 4 p.m. reception, 5–6 p.m. lecture. Dr. Joseph R. Duffy, emeritus consultant and professor, Speech Pathology, Mayo Clinic, will present "Primary Progressive Apraxia of Speech: Understanding a New Clinical Syndrome." Contact Dr. Ellen Cohn at [ecohn@pitt.edu](mailto:ecohn@pitt.edu) for more information; registration required.

Thursday, November 9, 2017

**CSD Alumni Meet-Up**, Rosa Mexicano | LA Live, 800 West Olympic Boulevard, Los Angeles, Ca., 7–9:30 p.m., held in conjunction with the Annual Conference of the American Speech-Language-Hearing Association. Email [emm191@pitt.edu](mailto:emm191@pitt.edu) for info.

### FEBRUARY

Friday, February 16, 2018

**2018 Winter Academy**, Ritz-Carlton Resorts of Naples, Naples, Fla. For details, contact Tashia Terry at 412-802-8281.

Wednesday–Saturday, February 21–24, 2018

**2018 APTA Combined Sections Meeting (CSM)**, New Orleans, La.

### APRIL

Wednesday–Saturday, April 18–21, 2018

**American Academy of Audiology 2018 (AAA 2018) Annual Conference and Exposition**, Nashville, Tenn.

Thursday–Sunday, April 19–22, 2018

**2018 AOTA Annual Conference and Expo**, Salt Lake City, Utah.





# perspective

*Perspective is a new addition to FACETS magazine written by Patty Kummick, FACETS executive editor and SHRS executive director of Internal and External Relations. This column serves to address topics relating to our students, faculty, staff, the school, and local and global communities.*

Throughout history, languages have grown and developed. In fact, each year Merriam-Webster adds new words to the dictionary. Words such as net neutrality, supercentenarian, binge-watch, photobomb, and microbiome may not roll off the tongue very easily but they are now recognized and widely used.

When the leaders and faculty of SHRS set out to address and formulate the School's core values earlier this year, the discussion did not revolve around words that were trending. Rather, our values were defined in enduring, easily understood, and powerful terms. Words that carry great meaning. Words that reflect our standards of behavior and how we conduct ourselves in relating to our many publics and to each other.

I would wager that the values SHRS formally adopted reflect much of what you deem important in life as well. After all, as alumni, students, faculty, staff, and friends of SHRS, we've been similarly influenced, at least from a professional perspective. The statement made to our graduating class each year at SHRS Recognition Day about students and alumni moving onward while upholding and further embellishing our reputation and serving as ambassadors for the School and for Pitt makes our values even more substantive.

We've been living our values for decades. They define our culture and reflect what matters within our walls and wherever our alumni and stakeholders are. They support our mission to "be a catalyst for a world free of barriers and disparities that allows all people, regardless of health, to have opportunities to participate in life to the fullest; to be accomplished through education, research, and service."

Consider our values and see how they match or support those that are critical to you:

**Advocacy** for those less fortunate or with limited access seeking greater independence;

**Excellence** in all endeavors and facets of our work;

**Inclusion** in student enrollment and faculty and staff composition with a major focus of inclusion of people with disabilities;

**Innovation** in teaching and educational curricula, research, technology, and product development;

**Integrity** through uncompromising adherence to ethical principles, truthfulness, dignity, and respect in all we do; and

**Service** to all, including the disabilities community, in regard to rehabilitation and health services with a commitment to social responsibility.

## Department News

### Communication Science and Disorders

The Communication Science and Disorders Department hosted the 7th biennial Teach the Teachers conference at the University of Pittsburgh, June 15–17, 2017. This year, the innovative meeting brought together classroom faculty and clinical instructors interested in honing their skills on teaching counseling. Conference faculty included (top row, left to right) **Dr. Karen Munoz**, Utah State University, **Dr. Carole Johnson**, University of Oklahoma Health Sciences Center, **Dr. Lisa Scott**, Florida State University, **Sue Hale**, Vanderbilt University, **Dr. Catherine Palmer**, associate professor, University of Pittsburgh; and (bottom row, left to right) **Dr. Elaine Morner**, associate professor, University of Pittsburgh; **Dr. Robert Sweetow**, University of California, San Francisco; and **Lori Zitelli**, UPMC and an instructor at the University of Pittsburgh. Not shown are guest speakers **Drs. Kelly Beck** and **Jamie Kulzer** from SHRS's Clinical Rehabilitation and Mental Health Counseling program.



### Rehabilitation Science and Technology

The Human Engineering Research Laboratories (HERL) was recently inducted into the Susan M. Daniels Disability Mentoring Hall of Fame established by Partners for Youth with Disabilities. The Hall honors individuals and organizations making a significant difference in the lives of youth and adults with disabilities through mentoring.



# Alumni News

## Communication Science and Disorders

**Lori Zitelli** (BA '08, MA '11, AuD '12) received a clinical scholarship to attend the National Center for Rehabilitative Auditory Research (NCRAR) conference in Portland, Ore., in October 2017.

**Katheryn L. Boada** (MA '91) was elected vice president for Government Relations and Public Policy on the 2018 ASHA Board of Directors. Boada is director of Audiology, Speech Pathology and Learning Services, Children's Hospital, Colo.



**Dr. Nicole Yee-Key Li-Jessen** (PhD '09) recently received recognition as a Canada Research Chair (Canadian Institutes of Health Research, Tier 2) in Personalized

Medicine of Voice Disorders. She also received the McGill University (Montreal) Faculty of Medicine 2017 Rosemary Wedderburn Brown Prize recognizing individuals with outstanding scholarly potential and demonstrated research excellence in the early stages of their career.

## Health Information Management

**Laurine Johnson** (BS '81, MS '88) received the 2017 Pennsylvania Health Information Management Association (PHIMA) Distinguished Member Award at the 2017 PHIMA annual conference in May 2017. She served as president of PHIMA in 2014.



**Victoria Chang** (BS '15), **Sarah Callahan** (BS '17), **Sara Smith** (BS '16), and **Thu-Thuy Dinh** (BS '14), pictured left to right, are employed by Aetna. The company visits the HIM Department annually to recruit our graduating students.

## Occupational Therapy

**Kelly Schafer** (MOT '13) was accepted into the American Occupational Therapy Association (AOTA) Emerging Leaders Development Program. Schafer is the fourth Pitt OT alumnus to be accepted into this program.

**LTC Robert Montz** (BS '97) graduated with an MS in Strategy Studies from the U.S. Army War College this summer.

**Dr. Ketki Raina** (MS '03, PhD '05) was inducted into the AOTA 2017 Roster of Fellows. This national award recognizes occupational therapists who, through their knowledge, expertise, leadership, advocacy, and/or guidance, have made a significant contribution to the profession and impact on consumers of OT services.

## Physical Therapy

**Dr. Anne Pascasio** (BA '46, MEd '50, BA '53, PhD '67), SHRS founding dean, was featured in the June 2017 issue of PT Prime Timers newsletter where she outlined her involvement with a food drive along with many other volunteer activities at Friendship Village of South Hills, Upper St. Clair, Pa.



Dr. Pascasio's leadership and participation in outreach projects has generated much goodwill among this residential facility, its generous residents, and many deserving community organizations.

## Rehabilitation Science and Technology

**Dr. Barbara Crane** (PhD '04) received the University of Hartford's College of Education, Nursing and Health Professions' inaugural *excellence through relevance* Faculty Service Award. Dr. Crane is professor of Physical Therapy at the University and recently assumed the role as the college's associate dean for Academic Affairs.

## Sports Medicine and Nutrition



**Rick Burkholder** (BS '87), pictured on the right, received the National Athletic Trainers' Association President's Award in June 2017. He is serving as immediate past president of the Professional Football Athletic Trainers Society following a three-year leadership term.





## Alumni News *(continued)*



**Elizabeth Henry** (CMND '13) was the recipient of the Recognized Young Dietitian of the Year Award from the Pennsylvania Academy of

Nutrition and Dietetics. She serves as the conference committee chair of the School Nutrition Association of Pennsylvania and the web master for the Pittsburgh Academy of Nutrition and Dietetics.



**Erin Pover** (CMND '09) was the recipient of the Emerging Dietetics Leader Award from the Pennsylvania Academy of Nutrition and

Dietetics. She serves as president-elect of the Pittsburgh Academy of Nutrition and Dietetics.

**Jamison Fiedor** (BS '08), an alumnus of the Athletic Training program, is serving as an orthopedic physician assistant with WellSpan Medical Group, York, Pa. He currently resides in Hanover, Pa.

## Faculty News

The School of Health and Rehabilitation Sciences recognizes the following faculty who have received promotions: **Dr. James Coyle** and **Dr. Cheryl Messick**, professors, Department of Communication Science and Disorders; **Dr. Elizabeth Skidmore**, professor, and **Dr. Pamela Toto**, associate professor, Department of Occupational Therapy; **Dr. Deborah Josbeno**, associate professor, Department of Physical Therapy; and **Dr. Mark Schmeler**, associate professor, Department of Rehabilitation Science and Technology.

The School of Health and Rehabilitation Sciences welcomes the following new faculty members: **Dr. William Evans**, assistant professor, Department of Communication Science and Disorders; **Christopher Hovorka**, instructor, Prosthetics and Orthotics program; **Dr. Angela Caldwell**, assistant professor, and **Alexandra Harper**, visiting instructor, Department of Occupational Therapy; and **Dr. Kimberly Peterson**, assistant professor, Department of Health Information Management.

### Clinical Rehabilitation and Mental Health Counseling

**Dr. Kelly Beck**, instructor in the Clinical Rehabilitation and Mental Health Counseling graduate program, earned her doctoral degree in Rehabilitation Science in June 2017. Dr. Beck successfully defended her dissertation, "Feasibility of Mindfulness-Based Stress Reduction for Adults with Autism Spectrum Disorder."

### Communication Science and Disorders

**Dr. Ellen R. Cohn**, professor, presented on the topic of telepractice at the Council of Academic Programs in Communication Sciences and Disorders (CAPCSD), New Orleans, La., in April 2017. She also served as an expert in a live webchat, "AAC and Telepractice: Tips and Best Practices," co-sponsored by ASHA SIG 12 (Augmentative and Alternative Communication) and SIG 18 (Telepractice).

**Dr. James Coyle**, professor, along with Dr. Ervin Sejdic, Swanson School of Engineering, received an NIH award focusing on instrumental screening for dysphagia. The project will investigate and develop signal processing algorithms to analyze accelerometer and high-resolution acoustic data collected during videofluoroscopy. The process will be used for screening and diagnostic evaluation of people suspected as having dysphagia.

**Dr. Coyle** presented a one-day course, "Practicing at the Top of our License: Integrating Knowledge into Medical SLP Practice," at the University of Utah, June 16, 2017. He also presented multiple sessions at the ASHA Health Care Connect Conference, New Orleans, La., July 7, 2017, and led a one-day course titled "Medical Speech Language Pathology: The Effects of Disease on Swallowing," for the Jacksonville (Fla.) Area Speech Pathology Association on October 14, 2017.





# Faculty News *(continued)*



**Dr. William S. Evans** joined the Department of Communication Science and Disorders as an assistant

professor. He is an aphasia rehabilitation researcher studying the role of cognitive and emotional factors in language performance, seeking to incorporate technology into language rehabilitation better by developing more effective adaptive computer-based treatments. Dr. Evans also holds a joint research appointment as a speech pathologist at the Pittsburgh VA Geriatric Research Education and Clinical Center.

**Dr. Katya Hill**, associate professor, was awarded an NIH grant to test the compatibility between a brain-computer interface (BCI) and high-efficiency augmentative and alternative communication systems. The research involves using her data-logging tools to measure communication performance. Dr. Hill serves on the Coordinating Committee for the American Speech-Language-Hearing Association's (ASHA) Special Interest Group 12, Augmentative and Alternative Communication, and participated in an ASHA-sponsored advocacy visit to the U.S. Capitol on July 15, 2017.

**Dr. Paula Leslie**, professor, presented at Pitt's annual Health Career Scholars Academy on Bioethics in July 2017. She also presented at a Decision-Making for Swallowing Disorders from Birth to End of Life conference sponsored by Old Dominion University and Tidewater Scottish Rite Speech and Language Foundation in June 2017, and at the 2017 Pediatric Feeding Conference at Nationwide Children's Hospital, Columbus, Ohio, in July 2017. Dr. Leslie co-authored and recently published a book, *The Concise Guide to Decision Making and Ethics in Dysphagia*.

**Dr. Erin Lundblom**, assistant professor, serves as the Pennsylvania Speech-Language-Hearing Association's vice president for Publications and was the Pediatric Program chair for the national ASHA convention.



**Dr. Malcolm McNeil**, distinguished service professor, was awarded the VA Pittsburgh Healthcare System's 2017

Excellence in Research Award in May 2017. His nomination for the award cited the significant contributions he has made as a scholar, mentor, and clinical scientist.

**Dr. Deborah Moncrieff**, assistant professor, is a co-investigator on the Rehabilitation Engineering Research Center (RERC) on Information and Communication Technologies Access at the University of Pittsburgh, in collaboration with researchers in the SHRS Department of Health Information Management and DePaul School for Hearing and Speech.

**Dr. Elaine Mormer**, associate professor, was appointed to a two-year term on the Board of Directors of the Council of Academic Programs in Communication Sciences and Disorders (CAPCSD). She will serve as the vice president for Standards, Credentials, and Clinical Education. Dr. Mormer recently made invited presentations at the Duquesne University Aging Research and Teaching Consortium Speaker Series; the University of Pittsburgh's Teach the Teachers biennial conference; St. James Hospital, Dublin, Ireland; and the Council of Academic Programs in Communication Sciences and Disorders Annual Conference, New Orleans, La.

This May, a contingent of 39 students, faculty, and staff spent a month in Ireland participating in the 12th annual SHRS Study Abroad in Ireland program directed by **Dr. Janice Vance**, assistant professor and director of Undergraduate Education in the Department of Communication Science and Disorders (CSD). The students represented four SHRS undergraduate programs including CSD, Rehabilitation Science, Athletic Training, and Nutrition and Dietetics. The intensive, inter-professional program consisted of daily clinical and educational site visits, group discussions, oral presentations, and writing assignments.

**Lori Zitelli**, instructor, and **Drs. Catherine Palmer** and **Elaine Mormer**, associate professors, co-authored a feature article on bringing hearing help to medicine's primary care frontlines which appeared in *The ASHA Leader*, July 2017.

## Emergency Medicine

**Dr. Walt Stoy**, professor and program director, presented at the 2017 EMS Transformation Summit on April 24, 2017, in Arlington, Va. The summit was organized by the National Association of Emergency Medical Technicians and sponsored in part by the *Journal of Emergency Medical Services*.

## Health Information Management



**Dr. Valerie Watzlaf**, associate professor, was elected president of the American Health Information

Management Association. Her term begins as president-elect in January 2018 with the presidency term beginning January 2019. Dr. Watzlaf is the second HIM faculty member elected to this prestigious position, following **Department Chair Mervat Abdelhak's** lead, whose term was in 2005.



# Faculty News *(continued)*

**Dr. Andi Saptono**, assistant professor, was recognized as a member of the “Pitt Crew” with a Champion Award by the Association of Veterans Affairs Speech Language Pathologists for their involvement with assistive technology and telehealth projects. Other Pitt Crew team members included **Dr. Mark Schmeler**, associate professor, and **Dr. Richard Schein**, research scientist, from the Department of Rehabilitation Science and Technology, and Andy Jinks from the Center for Assistive Technology.

## Occupational Therapy



**Dr. Elizabeth Skidmore**, professor and chair, was elected as a 2017 Fellow of the American Congress of Rehabilitation Medicine.

**Julleen Rodakowski**, assistant professor, was a featured speaker at Pi Theta Epsilon’s Omicron Chapter at Boston University’s webinar featuring American Occupational Therapy Foundation research grant recipients on May 2, 2017. Her topic was “Empowering Caregivers after Stroke.” She also presented at the 21st International Association of Gerontology and Geriatrics World Congress of Gerontology and Geriatrics on July 25, 2017, in San Francisco, Ca. The title of her poster was “Caregivers Included in Discharge Planning Reduces Hospital Readmissions: A Meta-Analysis.”

**Dr. Pamela Toto**, associate professor, presented a poster she authored with **Dr. Lauren Terhorst**, associate professor, and **Drs. Margo Holm** and **Joan Rogers**, professors emerita, at the 21st International Association of Gerontology and Geriatrics World Congress of Gerontology and Geriatrics on July 24, 2017, in San Francisco, Ca. The title of their poster was “Using Performance-Based ADL/IADL Data to Explore a Self-Report Model of Preclinical Disability.”

**Dr. Toto** also was invited to serve on a community event panel discussing “Getting the Most out of Health Care Visits: What Caregivers Need to Know about Talking to Doctors and Other Providers” as part of the University of Pittsburgh’s Alzheimer Disease Research Center in May 2017.

**Alyson Stover**, assistant professor, presented at the 12th International Conference on Interdisciplinary Social Sciences on July 27, 2017, in Hiroshima, Japan. Her presentation was titled “Treatment for Adolescents with Mental Health Diagnoses: Using Sensory Integration Theory, Self-awareness Training, and Occupation.”



**Stover** also was awarded the ATHENA Young Professional Leadership award. She was also named as one of Mercer County’s (Pa.) 40 Under Forty by the Mercer Area, Shenango Valley, Greenville Area, and Grove City Area Chamber of Commerce.

**Dr. Nancy Baker**, associate professor, was inducted into the AOTA 2017 Roster of Fellows. This national award recognizes occupational therapists who, through their knowledge, expertise, leadership, advocacy, and/or guidance, have made a significant contribution to the profession and impact on consumers of OT services.

## Physical Therapy

**Dr. Andrea Hergenroeder**, assistant professor, was appointed as postdoctoral scholar in the Pittsburgh Claude D. Pepper Older Americans Independence Center effective July 1, 2017 to June 30, 2019. She will pursue her research related to reducing sedentary behavior in older adults at the center, which is one of 12 NIA-funded Centers of Excellence in Geriatric Research.

**Dr. Jay Irrgang**, professor and chair, delivered the keynote address, “Using Process of Care and Clinical Outcomes Data to Improve Decision-Making, Quality and Value,” at the Orthopaedic Section Annual Meeting, San Diego, Ca., on April 20, 2017.

## Rehabilitation Science and Technology

**Dr. Rory Cooper**, distinguished professor and FISA/PVA chair, participated in the 2017 National Veterans Wheelchair Games in Cincinnati, Ohio, in July 2017 and took first place in three swimming competitions and three track events.

**Dr. Cooper** was honored by the Partnership for Public Service with a Samuel J. Heyman Service to America Medal (Sammie). His award was in the Science and Environment category for developing adaptive wheelchairs.

**Dr. David Brienza**, professor and SHRS associate dean for Research, was awarded a \$2.6 million grant from the National Institutes of Health to study pressure ulcer prevention.





### Sports Medicine and Nutrition

**Dr. Shawn Flanagan**, assistant professor, presented “Emerging Ideas and Approaches at the Intersection of Exercise and Brain Health” at the University of Texas at Dallas Center for BrainHealth on May 5, 2017. His talk was part of the Frontiers of Brain Health Lunch Lecture Series.

**Dr. Brad Nindl**, professor and director of the Neuromuscular Research Laboratory (NMRL), presented to a group of alumni attending a University of Pittsburgh/UPMC Medical and Health Sciences Foundation reception in Baltimore in April 2017. Nindl highlighted activities in the NMRL and its involvement with military human optimization and injury prevention.

## Student News

### Clinical Rehabilitation and Mental Health Counseling

**Alicia Heim**, graduate student, won the 2017 American Rehabilitation Counseling Association's Vision Award. The award recognizes a student who identifies unique innovations that highlight the collaborative relationship between the specialty of rehabilitation counseling and the counseling profession at large.

### Communication Science and Disorders

AuD students **Rachel Fryatt**, **Catherine Rincon**, **Kelsi Bubb**, and **Elizabeth Lucius** along with PhD student **Linman Kang** received travel awards and presented posters at the National Center for Rehabilitative Auditory Research (NCRAR) meeting this fall.

AuD students **Kara Magliocca** and **Courtney Wallace** were selected as Pittsburgh Schweitzer Fellows. They will continue the HEAR-UP project providing hearing evaluations, fitting patients for hearing aids, and providing counseling and aural rehabilitation at the Birmingham Free Clinic and Squirrel Hill Health Center.

### Occupational Therapy



**Sarah Walker**, MOT student, was awarded the Pennsylvania Occupational Therapy Association Scholarship.

MOT students **Katrina de la Cruz**, **Bora Kim**, **Kelsey O'Brien**, **Rachel Martin**, **Jace Odhner**, **Maria Violante**, and **Sarah Walker**, and OTD students **Ashley Greivenkamp**, **Ashley Martin**, and **Monica Morrison**, along with **Dr. Roxanna Bendixen**, assistant professor, volunteered at the Pittsburgh Symphony Orchestra Sensory Friendly Performance, Music of Flight and Fantasy, on June 17, 2017.

MOT students **Juliana Carlin**, **Suzanne Davis**, **Sara Ellis**, **Lauren Lukacs**, **Kylee Moninger**, **Shelby Scott**, **Caitlin Smith**, **Kelly Stipetich**, **Sarah Walker**, and OTD students **Kristen Komer**, **Elise Krause**, **Katie Slater**, along with **Dr. Denise Chisholm**, professor, raised money for and participated in the 2017 Arthritis Foundation's Walk to Cure Arthritis.



**Allison Osborne**, MOT student, was awarded the AMBUCS Scholarship.

**Madeleine Wirth**, OTD student, received the George I. Carson Graduate Fellowship.

### Physical Therapy

During Spring Break 2017, DPT students **Maggie Anzalone**, **Steve Betz**, **Jeanne Frisbie**, **Olivia Hart**, **Kim Miller**, **Deanna Palatucci**, **Katie Palkovic**, and **Mike Reeves** traveled to Guatemala on a volunteer service trip through Hearts in Motion.

The students utilized classroom and clinical experience under the guidance of clinical mentors to provide physical therapy services to populations with limited access to health care.

**Alexa DiCerio**, **Julie Rekant**, **Connor McGee**, **Annie Martucci**, and **Jacob Fine**, DPT students, were recipients of APTA Section memberships thanks to a donation by alumnus Michael Gans (DPT '06) to promote professionalism within the PT academic community. Students were selected through a drawing where entries were submitted based on their participation in community and professional development activities.

### Sports Medicine and Nutrition



**Therezia Alchoufete**, student in the Coordinated Master in Nutrition and Dietetics program, received the 2017 Pittsburgh

Academy of Nutrition and Dietetics Leadership Development Award. The award recognizes emerging leaders among students currently enrolled in a supervised practice program and encourages their participation in Academy activities.

**Hannah Goodnight**, graduate student, received the Outstanding Dietetics Student Award from the Pennsylvania Academy of Nutrition and Dietetics. The award recognizes emerging leadership and achievement of students in accredited and approved dietetics education programs.



## GEOFFREY *BALKMAN*



"TEN YEARS FROM NOW I HOPE I WILL BE CONTRIBUTING TO THE BODY OF RESEARCH IN PROSTHETICS AND ORTHOTICS, AND IMPROVING STANDARDS OF CLINICAL CARE."



The summer of 2006 was a life-changing one for Geoffrey Balkman (MS '12). Taking a break before his final year of college and dental school preparation, Balkman was back home in Seattle looking forward to spending time with his family. But when he witnessed a tragic accident, he began to re-think his career plans.

"My 16-year-old brother, Chandler, was swimming in a lake near our home," explains Balkman. "I was close to the shore when I saw him get run over by a boat. I knew he was in trouble so I grabbed a canoe and paddled out to help him. His leg had been caught in the boat's propeller, and was severed at the hip."

"It was a devastating accident, but it put my life in perspective," he adds.

Balkman put his dental school plans on hold while his brother underwent more than 30 surgeries, and spent 75 days in the hospital. As he watched Chandler go through the rehab process and learn to use an artificial limb, he started to research schools that offered a master's degree in Prosthetics and Orthotics (P&O).

"Pitt had everything I was looking for," says Balkman.

"It was a new program with a state-of-the-art facility and renowned faculty." Although he was born and raised on the West Coast, Balkman was excited to move east with his wife and young daughter.

Faculty Emeritus Ray G. Burdett was program director at the time. A certified orthotist with a background in physical therapy, Burdett also had a keen interest in prosthetics. He taught his students how a patient's muscle strength and range of motion affected their use of any device. "I found this fascinating," says Balkman. "Ray certainly influenced the way I approached my practice."

"Geoff did not have the typical undergraduate educational background in engineering or exercise science like most orthotics and prosthetics students," recalls Burdett. "But as a student he proved to have an inquiring mind and very good technical skills."

"Geoff was a pleasure to have in class," adds P&O Director and Instructor Sara Peterson. "He brought relatable personal knowledge to the classroom with his experience of supporting his brother through his amputation and prosthetic fitting. Geoff was an inquisitive, confident, and patient student while learning multiple prosthetic procedures and processes."

"I knew that he had aspirations to make a contribution to the profession in areas other than patient care, but I advised him to work as a clinician for a while to get a good understanding of patient problems and where new solutions might be needed," says Burdett.

Balkman took Burdett's advice. He put his skills to work as a certified prosthetist in both hospitals and outpatient settings with Fountain Orthotics and Prosthetics in Orange County, Calif., and later, at Hanger Clinic in Laguna Hills, Calif. He specialized in pediatric orthotics, and treated many children with scoliosis bracing.

During his years in clinical practice, Balkman identified several issues that impacted the field. "I saw a need to change the way insurance companies reimburse clinicians, and also establish new standards of care," notes Balkman.

"A P&O professional is seen by insurers as a provider of a device, not a service provider," he notes. "This is not at all the case."

He gives the example of a teenager with a scoliosis brace. Although an orthotist might follow her for two years, scheduling hour-long appointments every three months to observe changes and make adjustments, he would only be reimbursed for the brace, not his treatment time.

Balkman recently decided that it was time for him to make a bigger commitment to the field. With a letter of reference from Burdett, Balkman applied to a PhD program at the University of Washington in Seattle.

---

**"GEOFF WAS A PLEASURE  
TO HAVE IN CLASS. HE  
BROUGHT RELATABLE  
PERSONAL KNOWLEDGE TO  
THE CLASSROOM WITH HIS  
EXPERIENCE OF SUPPORTING  
HIS BROTHER THROUGH  
HIS AMPUTATION AND  
PROSTHETIC FITTING."**

---

Today, the father of four is a doctoral student and research prosthetist at the university. He is focusing his research on the use of outcome measures such as surveys and tests. "These tools are frequently used in physical therapy and other health care fields," he notes. "I believe they will help our profession establish norms that can justify what P&O professionals are doing to physicians, insurance companies, and patients."

Balkman is also exploring new technologies and their relevance in the clinical setting.

"Ten years from now I hope I will be contributing to the body of research in prosthetics and orthotics, and improving standards of clinical care," says Balkman.

Peterson is not surprised. "In class we saw that Geoff has a strong desire to help people and to improve the quality of lives for others," she explains.

Through his efforts, the P&O field will continue to evolve and improve. ■



# "LISTEN AND LEARN."

Brian Caricato (BS '91, MS '99, t-DPT '10) has been saying the same thing for years. "Listen and learn from your patients."

As assistant regional director of UPMC Centers for Rehabilitation Services (CRS) North/Central Region and facility director of CRS Allison Park, Caricato has supervised approximately 50 students and yearlong interns from the Department of Physical Therapy. With every one he has stressed the importance of being a good listener.

"Every patient deserves your individualized time and attention," says Caricato. "It's all about finding out what's important to them, then building rehabilitation goals based on their desires and needs."

"Brian has the ability to forge great therapist-patient relationships," observes Mike Funyak, a DPT student who is currently completing his yearlong internship under Caricato's supervision. "He rises and falls with their successes and failures. He thrives on it. He is always there from day one to help whomever he can, however he can, and in the most beneficial way possible. He almost becomes like a part of the patient's family."

Caricato's professional, patient-centered approach is an inspiration to his students. Natalie Novak (BS '12, DPT '16) worked as a rehabilitation aide at CRS Allison Park prior to enrolling in graduate school and also served her yearlong internship at the clinic. Now a physical therapist with CRS herself, she values the lessons learned from Caricato.

"Brian has the skills and knowledge to treat anyone, but he also ensures that every patient has a good therapy experience overall," says Novak. "I learned something new from him every day, whether it was from a one-on-one discussion about a patient or just from observing and listening to his interactions with patients. Brian always took the time out of his day to answer any of my questions or concerns, and to review my day to ensure that I was getting the best clinical experience."

Novak tries to model her practice after Caricato's. "I definitely use the skills that he has taught me to provide treatments and manual therapy, but I also try to maintain the professionalism and customer service that I learned from him as well," she adds.

In an effort to provide individualized attention to every patient, Caricato often employs a cognitive behavioral approach known as Psychologically Informed Physical Therapy (PIPT) for patients with low back pain.



▲ Individualized attention leads to positive patient outcomes.

"Some patients are afraid of bending or lifting because they believe it will worsen their pain," explains Caricato. "As a result, they simply don't move, and their pain or stiffness becomes worse. Through PIPT we dispel their fears and gradually help them get moving again. They come to realize that they don't have to avoid certain behaviors or movements. They can be active again without pain."

Patients who qualify for PIPT are referred by their primary care physician after they complete a screening process. According to Caricato, "It's fascinating and rewarding to blend psychological with physical therapy to help alleviate pain."

Caricato makes sure his students understand the benefits and techniques for administering PIPT. Funyak says he likes to use it because it helps the patient identify potential barriers to success.

"Brian has shown us that through PIPT, we can take a journey with patients. We discuss their goals and past experiences that may have been helpful or harmful to them," he explains. "After that we can formulate a plan together as a team to help them achieve their goals in a way that is enjoyable for them, as well as therapeutic."

Although Caricato encourages his students to listen and learn from patients, he is also listening and learning from them. "I learn something from every student, whether it's a technique or an exercise, or the latest evidence-based practice," says Caricato. "They are remarkable young professionals who come to the clinic ready to learn and ready to share their knowledge."

The Department of Physical Therapy's director of Clinical Education, Dr. Lynn Fitzgerald, says Brian Caricato is respected by all. "In the 19 years I have worked with him as a clinical instructor, his students have consistently evaluated his teaching at a high level and highly recommended an internship under his supervision."

She adds, "We are fortunate that Brian came on as a clinical faculty consultant to help us evaluate, develop, and implement changes in our clinical education program back in 2008. He continues to provide feedback about the program, has helped develop new clinical tools, and helped train others to use these tools effectively." ■





"BRIAN HAS **THE SKILLS AND KNOWLEDGE TO TREAT ANYONE**, BUT HE ALSO ENSURES THAT EVERY PATIENT HAS A GOOD THERAPY EXPERIENCE OVERALL."

*Brian Caricato reassures DPT student Mike Funyak as he works with a patient at CRS Allison Park.*



FACETS FEATURE

# CHRONIC CONDITIONS. CHRONIC PAIN. CHRONIC ABUSE.

# AND SOLUTIONS.



The statistics are staggering. One out of every two adults—that's 125 million Americans—are living with at least one chronic disease. Two out of every four have more than one chronic condition. For older Americans, the number rises to three out of four. By 2020, that number is expected to increase to more than 157 million Americans, and medical costs to care for them are predicted to reach the one trillion-dollar mark.

To compound the problem, many of these conditions result in chronic pain, which leads to an increase in prescription medication, which often ends with abuse and addiction.

An analysis prepared by the Centers for Disease Control and Prevention reports that the sales of opioid pain relievers quadrupled between 1999 and 2010—enough to medicate every American adult with a standard pain treatment dose of five milligrams of hydrocodone taken every four hours for a month.

Some say there is a crisis in the management and prevention of chronic conditions. But at SHRS, we are delivering on our mission to improve the lives and independence of all people, especially those with chronic conditions or disabilities.

### **Educating the clinician.**

Dr. Nancy Baker, associate professor in the Department of Occupational Therapy (OT), is collaborating with Megan Driscoll (MOT '12), occupational therapist and facility director of the Chronic Pain Center at UPMC Centers for Rehab Services (CRS) Centre Commons, in an effort to educate clinicians about chronic pain.

"It's often difficult for health care professionals who haven't experienced chronic pain to treat someone whose pain may be debilitating," explains Baker. "As therapists, we want to *cure* people. That's not always possible when it comes to pain, so we need to take a different approach."

Together, Baker, Driscoll, and senior physical therapist Paula Breuer developed a pain management educational program that consists of seven modules. Recently introduced at CRS, the modules take a psycho-social approach. They help therapists move away from the idea of "curing" patients to providing ways for them to function better with their pain. And without the use of habit-forming drugs.

"The evidence is overwhelming that the most successful rehabilitation for chronic pain conditions must address the issues of coping and adapting to pain," says Dr. Ajay D. Wasan, professor of Anesthesiology and Psychiatry at the University of Pittsburgh School of Medicine and vice chair for Pain Medicine, Department of Anesthesiology, who was one of three physicians who helped to develop modules for other physicians. "These issues intersect in the minute-to-minute decisions patients make every day to be active and more functional or sadly, go in the other direction and make poor decisions, which leads to a worse quality of life while still having pain."

The modules provide both an educational background on chronic pain as well as practical applications for clinicians to work as part of an interdisciplinary team to evaluate and treat chronic pain.



▲ Megan Driscoll, director of UPMC's Chronic Pain Center, pictured at left, collaborates with Dr. Nancy Baker of SHRS.



“One of the key elements of this approach is active listening,” says Driscoll. “We want therapists to listen to patients and understand their individual goals.”

“The modules are very effective in giving therapists a ‘toolkit’ that can be readily applied to the rehabilitation of a very widespread group of people with disabling chronic pain,” continues Wasan. “Having done this kind of work for 20 years, it is very gratifying to see these patients turn their lives around and watch them become more active, functional, and satisfied with their lives.”

Baker says the collaboration between UPMC and SHRS has been extremely valuable. “We’ve delved into evidence about what really works, and it’s greatly improved the system,” she notes. “We are showing clinicians how to provide non-pharmacological interventions that help patients with intractable pain to live their lives fully.”

### **SBIRT training for students.**

Through a grant from the Substance Abuse and Mental Health Services Administration, two programs within SHRS are teaching students to recognize and counteract the signs of substance abuse through Screening, Brief Intervention, and Referral to Treatment (SBIRT) training.

Students in the Doctor of Physical Therapy (DPT) and the Physician Assistant Studies (PA) programs utilize a comprehensive curriculum that includes a didactic review of the medical and psychiatric complications of substance abuse and pharmacologic therapies, followed by online and virtual simulations and peer-to-peer practice. They then have the opportunity to apply their knowledge in a variety of clinical settings with faculty supervision.

According to PA Assistant Professor Jason Hare, “PAs are often the first contact that patients have in a medical setting, so it makes sense that they are trained to probe for and address potential substance abuse.”

“Sometimes it’s uncomfortable even for health care professionals to talk about sensitive topics,” continues PA Director and Assistant Professor Deborah Opacic. “SBIRT supplies the students with a variety of tools including ways to communicate with patients. It also gives them the confidence to address suspected or potential substance abuse and refer to treatment if necessary.”

Morgan Snyder (MS ’17) participated in SBIRT training during her clinical year in the PA program. “Even as a new clinician, it is easy to find drug and alcohol discussion intimidating. Because drug abuse is becoming

endemic and prevalent in our society, any new approach should be embraced. I definitely see SBIRT as beneficial to my future practice.”

Hare says students are often surprised at how honest and open patients are when SBIRT techniques are used. “It allows the patient to be more involved in the discussion and formulation of the plan going forward,” reports PA student Dustyn Pastors, who is using the technique during his clinical year.

PT Associate Professor M. Kathleen Kelly points out the need for an integrated public health approach like SBIRT. “It is a goal to have all health care providers take responsibility for talking to patients about substance abuse. We all have a stake in this.”

“We’re teaching our DPT students that they’re responsible for more than just providing therapy for a patient’s biological problem. They must look at the psycho-social environment in which their patient lives,” adds PT Associate Professor Mike Schneider.

### **Interventions for pregnant mothers.**

OT Assistant Professor Alyson Stover is in the first stage of a pilot study to address another growing health crisis—opioid addiction in pregnant women. “Mommy and Me: Better Together” is a comprehensive prenatal to postnatal program for mothers who wish to recover from their opioid dependency.

Recruiting began in September and will continue throughout October to identify participants from methadone clinics in rural Mercer County.

Stover created three levels of interventions that begin 16 to 18 weeks prior to delivery. “During this time period, it’s a mother-centric program,” explains Stover. “We first want to develop the role of a healthy mother.”

After birth, the program moves to a mother and infant focus with interventions such as lactation consultation, calm baby cues, and stress management for the new mom. In the final phase of the program, Stover’s team will make home visits over the course of six to nine months after birth to be sure the baby is eating well and developing normally.

“Most babies born addicted are removed from their homes within the first six to nine months of life,” states Stover. “We believe that by following the steps of this program, we can keep mothers and babies together for the long term.”



▼ PA student Dustyn Pastors discusses SBIRT training with his peers.



In addition to reducing the number of babies taken from their homes, Stover hopes to decrease the rate of relapses in mothers. “We want the mothers to experience a high quality of satisfaction in their role as mother and in their relationship with their child.”

“The innovative work of our faculty and students, their collaboration with like-minded partners, and their unswerving dedication to their individual fields are testaments to our commitment to improve the quality of life for the people we serve,” concludes SHRS Dean Anthony Delitto. “This reflects our mission, our vision, and our plan moving forward.” ■



## NEUROMUSCULAR RESEARCH LAB: BUILDING ON A LEGACY.

Over the past ten years, the Neuromuscular Research Laboratory (NMRL) in the Department of Sports Medicine and Nutrition (SMN) has created a legacy of service working with the U.S. Special Operations Command and Marine Corps, studying our military elite and their unique performance optimization and injury mitigation needs.

Today, SMN Professor and NMRL Director Bradley C. Nindl is using his knowledge of the military and research experience to expand the scope of the lab. A colonel in the U.S. Army Reserve and a veteran of the Iraq War, Nindl served as a research scientist with the U.S. Army Research Institute of Environmental Medicine for more than 20 years. In addition to his work in human performance optimization and injury prevention, he studied biomarkers with a focus on adaptations of the neuromuscular and endocrine systems to exercise and military operational stress.

“The work of NMRL has always been about optimizing performance and preventing injury, and we will continue to do that,” says Nindl. “But now we’re moving forward with exciting research that will impact the traditional military population in addition to the Special Forces.”

Thanks to a new grant from the Department of Defense, an interdisciplinary team of researchers including SMN Assistant Professor Shawn Flanagan is studying cognitive resilience in active duty service members from the U.S. Army Reserve unit in Moon Township, Pa.

“In the military, stress comes in many different forms, including physical exertion, cognitive overload, sleep loss, and caloric restriction,” explains Flanagan. “In addition to taxing cognition, these occupational stressors impair physical performance and predispose soldiers to injury.”

Flanagan says there is a growing appreciation for the link between psychological stress and musculoskeletal injury. He and his team of researchers are testing novel and established measurements of neurocognitive and physical performance during behaviorally relevant military tasks including marksmanship, adaptive decision making, and spatial navigation. Insights from the analysis will be aided by artificial intelligence.

“If we can predict and monitor cognitive resilience, we can develop interventions that optimize performance and prevent injury,” he adds.

The reputation of the NMRL continues to grow.

Proof of that will come in November, when seven articles describing NMRL’s work with the tactical athlete will be published in the *Journal of Science and Medicine in Sport*. The publication coincides with Nindl’s role as a committee member for the 4th International Congress on Soldiers’ Physical Performance (ICSPP) in Melbourne, Australia.

Two students in the doctoral program for Rehabilitation Science will also attend this prestigious conference and present abstracts detailing their research at the NMRL.

Anne Z. Beethe’s work revolves around the stresses placed on the combat swimmer who is asked to swim at the surface of the water using various strokes, while carrying mission-specific gear. Shawn Eagle, who previously worked in NMRL laboratories at the Naval Amphibious Base Coronado and the U.S. Marine Corps Forces Special Operations Command, Camp Lejeune, will present the results of a prospective study to identify injury risk factors for lower extremity injury in Air Force Special Operations Command operators.





“When I started working closely with military populations, I began to appreciate the scope of what they have to endure and became passionate about finding ways to best prepare their bodies to succeed at their jobs,” says Eagle. “Attending the ICSPP is a once-in-a-lifetime opportunity to learn a great deal about sports medicine as it applies to military personnel.”

“The work done at the NMRL is important because we have the ability to conduct an array of basic and real-world tests based on occupation-specific needs,” adds Beethe. “In the example of our combat swimmer testing, we can conduct a wide variety of land tests in addition to swimming tests, benchmarked against large datasets we developed and validated.”

At the NMRL, making the leap from athletes to military personnel and from one environment to another is an everyday occurrence. Assistant Professor Chris Connaboy is studying conditions in Antarctica to prepare astronauts for an eventual journey to Mars.

Through a grant from NASA, Connaboy is collaborating with a team from the University of Houston. His work focuses specifically on the development of a new performance metric designed to assess and identify behavioral risks, which may affect performance in isolated, confined, and extreme environments.

Connaboy says his experience as a former infantry soldier in the Black Watch (Royal Highland Regiment) was ultimately what led him to Pitt and the NMRL. “Working in the NMRL allows me to combine my academic and personal interests, providing me with the opportunity to contribute to the optimization of warfighter performance as I work along an interdisciplinary team of experts dedicated towards this goal.”

“There’s a rich and vibrant academic culture here,” observes Nindl. “It is a privilege to work with these dedicated scientists in the NMRL.” ■



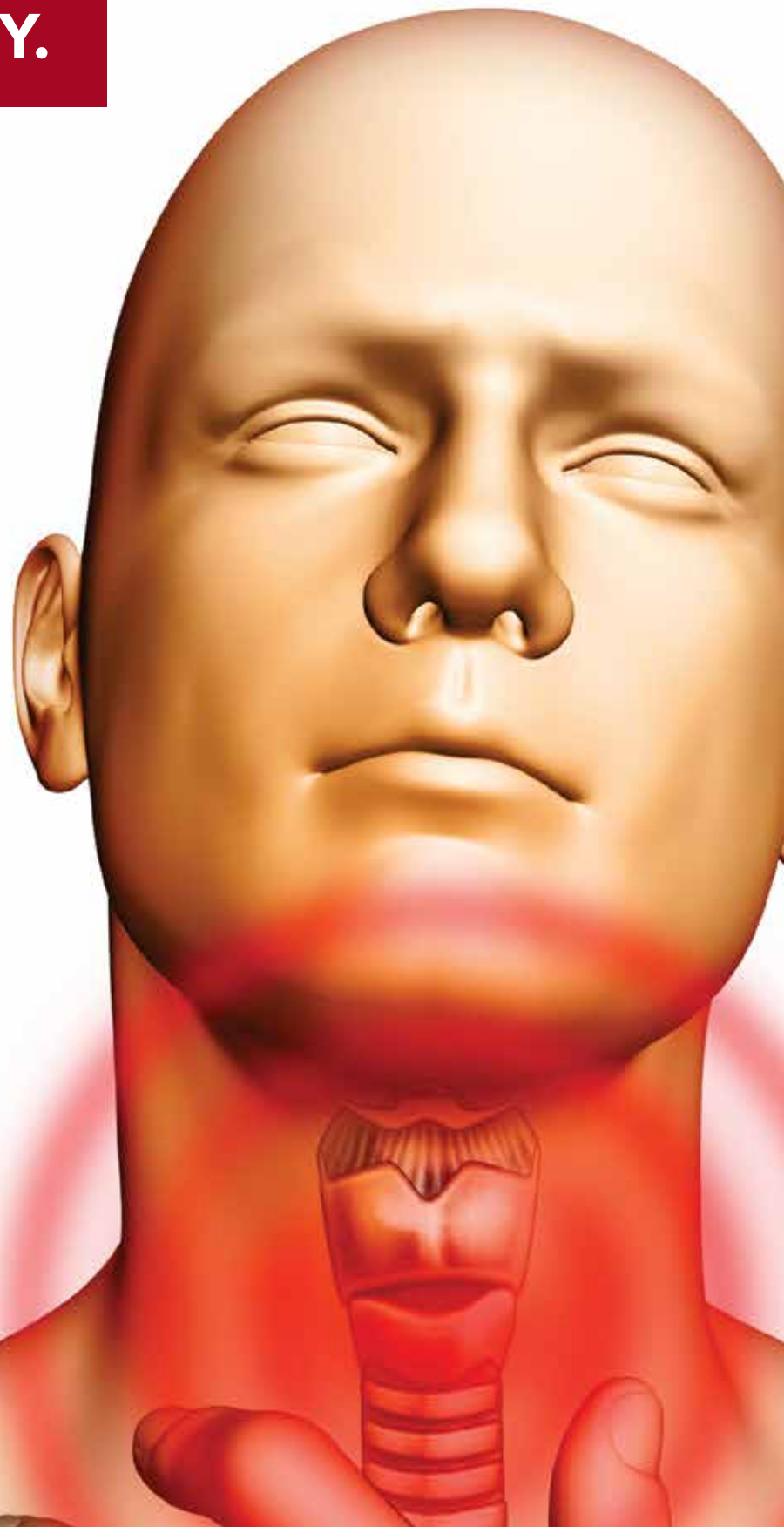
## MANAGING THE INVISIBLE DISABILITY.

“We meet for business lunches. We join friends for dinner and drinks. We crave the taste of an ice cream cone during the summer and hot cocoa during the winter. Can you imagine living without any of that?” asks Angela Selby, graduate student in the Speech-Language Pathology program in the Department of Communication Science and Disorders (CSD).

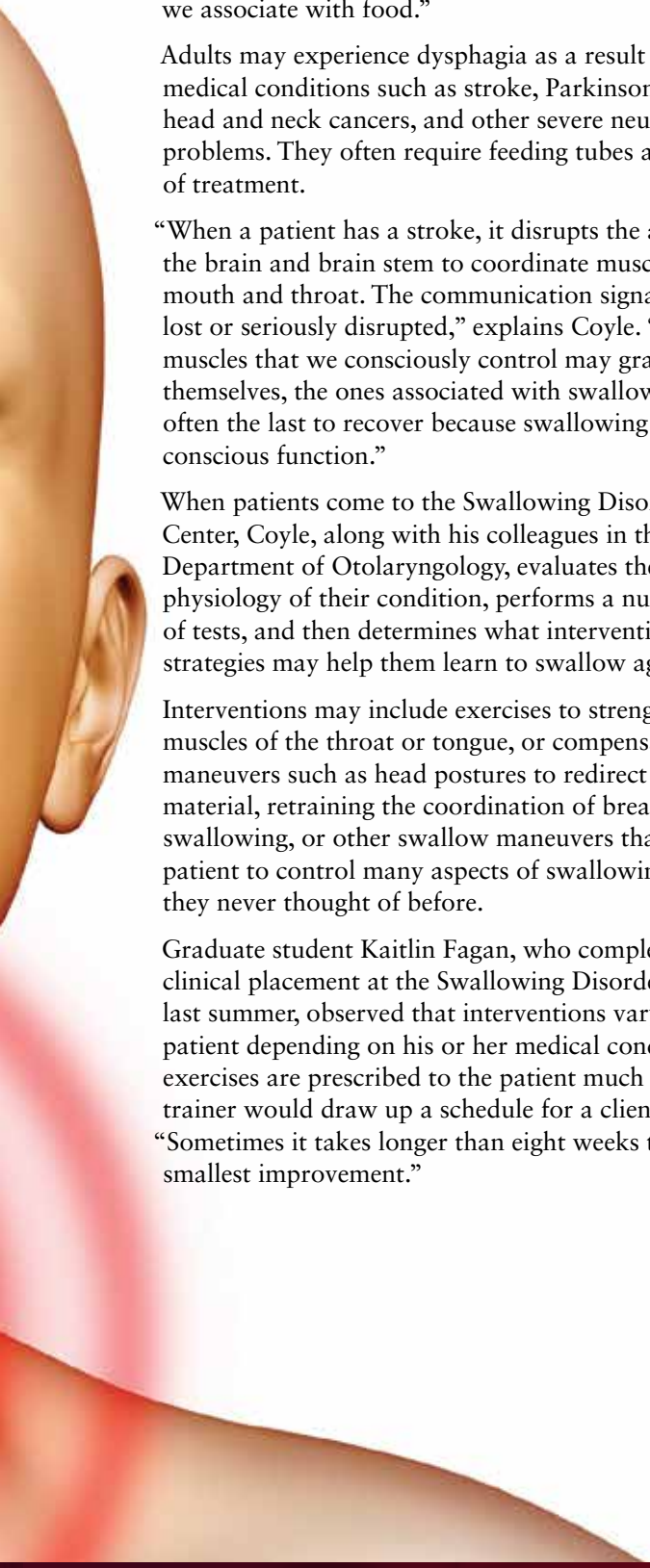
---

“SOMETIMES IT TAKES LONGER THAN EIGHT WEEKS TO SEE EVEN THE SMALLEST IMPROVEMENT. BUT WHEN YOU WORK WITH SOMEONE WITH A CHRONIC CONDITION, **YOU CELEBRATE THE LITTLE VICTORIES.**”

---







Selby is describing life for people with dysphagia, or swallowing disorders. She helped to treat these individuals during a clinical rotation at the UPMC Swallowing Disorders Center with CSD Professor James Coyle.

“We’re working with an invisible disability,” says Coyle. “People with swallowing disorders may look like everyone else. But the fact is, they can’t socialize with family and friends around the dinner table, they can’t always get proper nutrition, and they don’t enjoy the nurturing that we associate with food.”

Adults may experience dysphagia as a result of serious medical conditions such as stroke, Parkinson’s disease, head and neck cancers, and other severe neurological problems. They often require feeding tubes and many years of treatment.

“When a patient has a stroke, it disrupts the ability of the brain and brain stem to coordinate muscles of the mouth and throat. The communication signal is simply lost or seriously disrupted,” explains Coyle. “While other muscles that we consciously control may gradually repair themselves, the ones associated with swallowing are often the last to recover because swallowing is not a fully conscious function.”

When patients come to the Swallowing Disorders Center, Coyle, along with his colleagues in the Department of Otolaryngology, evaluates the physiology of their condition, performs a number of tests, and then determines what intervention strategies may help them learn to swallow again.

Interventions may include exercises to strengthen the muscles of the throat or tongue, or compensatory maneuvers such as head postures to redirect swallowed material, retraining the coordination of breathing and swallowing, or other swallow maneuvers that require the patient to control many aspects of swallowing function they never thought of before.

Graduate student Kaitlin Fagan, who completed a clinical placement at the Swallowing Disorders Center last summer, observed that interventions vary with every patient depending on his or her medical condition. “The exercises are prescribed to the patient much like a personal trainer would draw up a schedule for a client,” says Fagan. “Sometimes it takes longer than eight weeks to see even the smallest improvement.”

“But when you work with someone with a chronic condition, you celebrate the little victories,” she continues.

“It is important for patients to know in the very beginning what they should expect and that while results likely won’t be immediate, staying with it for the long haul can help them achieve their personal goals,” adds another graduate student clinician, Claire Ziegler. “One of the biggest ways to engender the process is to build rapport with them.”

Coyle built a special rapport with one patient who had experienced multiple strokes and his swallowing disorder was complicated by respiratory failure. “This was a patient with longstanding dysphagia who had not eaten by mouth for three years,” Coyle notes. “But he was also very determined. He agreed to participate in one of our swallowing research studies and we tried different exercises and compensations to help him swallow.”

Eventually, the patient began to successfully swallow one drop of water at a time.

“Severe dysphagia like this can cause some serious side-effects including pneumonia and malnutrition,” says Coyle. “In addition, even small amounts of food and drops of water can be aspirated into the lungs so we need to continually monitor the safety of the swallow and whether any medical complications arise as a result of resuming oral intake.”

Coyle continued to work with this particular patient after the study was completed. “He never suffered an adverse medical complication despite ongoing swallow impairments, but we set a goal for him to be able to sit at the Thanksgiving table with his family and eat mashed potatoes,” notes Coyle. “Much to his delight—and ours—he accomplished his goal and by the following Thanksgiving he had a full meal with his family.”

“Working with this individual was rather eye opening and reassuring,” says graduate student Sarah Dubrow, who began her clinical rotation with Coyle when the patient first began to eat solids. “His complicated medical history and chronic condition would have typically seemed detrimental to his swallowing function. His case speaks to the importance of persistence and encouragement, and how they can truly benefit a patient’s swallowing.”

According to Coyle, “There’s no doubt that a supportive family can really make a difference. Here was a man who had all but given up hope of eating solid foods! Although his unique medical condition still requires him to use a feeding tube for liquids, he is now able to sit down at the table and enjoy solid foods with his friends and family.” ■



# iMHERE 2.0: REMOVING BARRIERS TO CARE.

Studies have shown that 87 percent of individuals with disabilities such as spina bifida and spinal cord injury also experience secondary conditions that frequently lead to hospitalization and lack of patient satisfaction with the care they are receiving.





But Dr. Bambang Parmanto, professor, Department of Health Information Management, and Dr. Brad Dicianno, medical director, Human Engineering Research Laboratories, and associate professor, Department of Physical Medicine and Rehabilitation, developed a novel mobile health platform designed to prevent the occurrence of secondary conditions through patient self-monitoring.

Studies of the Interactive Mobile Health and Rehabilitation system, better known as iMHere, began in 2013. A series of usability, accessibility, and feasibility-of-use trials revealed opportunities for increased functionality.

Parmanto says improvements to the system, including patient education materials, a personal health record, goal-setting capabilities, and other features further enhance the value of iMHere.

“The smartphone app which was an original component of the system is still totally unique,” explains Parmanto. “It can set health care reminders for the user and send secure messages as well as symptom surveys and reports. It also has the ability to upload photos.”

“One very important feature of the smartphone app is that it gives caregivers and families the opportunity to keep up with the user’s condition and offer support and encouragement,” he adds.

According to Dicianno, the new and improved version of iMHere can also be personalized to meet the specific needs of the user. “For example, we can customize modules of care to help a client with spina bifida and hydrocephalus avoid secondary conditions such as wounds.”

Through iMHere, a clinician can send reminders to patients to check their skin and educate them about proper nutrition and ways to relieve pressure. The types and number of reminders are completely personalized based on the client’s needs.

Theresa Crytzer, assistant professor, Department of Rehabilitation Science and Technology, served as a wellness coordinator during the clinical trials. She found the iMHere system to be especially useful when working with clients who used the skincare app for wounds. “Through photos that the clients sent through the secure system, the team could visually monitor the progress of the wound. At the same time, the two-way messaging system allowed me to educate clients on proper hydration and ways to relieve pressure over the wound.”

“For clients who used wheelchairs, we were able to schedule evaluations for pressure mapping with physical or occupational therapists at a wheelchair clinic,” she continues.

“By bundling different modules of care, we’re applying principles of evidence-based practice to improve patient outcomes,” notes Dicianno.



▲ iMHere flowchart for skin care

According to Parmanto, the web-based portal and two-way communications channel benefit both the client and the clinician.

Crytzer agrees. “I found that even during busy clinic days it was relatively easy to log in to the secure iMHere web-based portal. The dashboard provides a quick overview of client concerns so that I could triage the urgent issues. I could provide a quick response to the client and/or consult with the client’s physical medicine and rehabilitation physician and then provide a follow-up message to the client.”

Through the secure two-way messaging system, wellness coordinators become more productive. “It is a much faster method of contacting clients than phone calls and I feel like I actually have more frequent communication with clients through iMHere,” says Crytzer.

By preventing the occurrence of many secondary conditions that would typically result in hospital visits, iMHere can significantly reduce the cost of health care services. “By all accounts, iMHere will result in a savings of \$27,000 per patient per year,” says Parmanto.

He expects iMHere to fill a huge void in the future. “We have a growing population of elderly and people with disabilities in this country as well as an increased focus on telemedicine and remote patient monitoring,” says Parmanto. “iMHere can improve their health outcomes, provide greater client satisfaction, and reduce costs.” ■



# THE VALUE OF HEALTH SERVICES RESEARCH

Dr. Janet K. Freburger likes to look at the big picture. That's why she pursued a career in health services research. "Looking at huge amounts of data has a lot of implications for health policy," notes Freburger.

It also informs patient care.

When she joined the Department of Physical Therapy as professor in January 2017, Freburger immediately began summarizing results of a study that she began as a researcher at the Cecil G. Sheps Center for Health Services Research at the University of North Carolina at Chapel Hill.

The objective of her study, which examined Medicare data from more than 24,000 individuals over a four-year period, is to determine if patients who receive physical and occupational therapy in a timely manner after a stroke hospitalization have fewer hospital readmissions.

"Advances in the care of stroke have reduced stroke mortality by approximately 40 percent in recent decades," notes Freburger. "But residual impairments in stroke survivors remain high and impact the patient's quality of life."

She adds that motor and cognitive impairments also increase the risk of hospital readmission.

"Our work has shown that individuals who receive rehabilitation care in the first 30 days following discharge home are less likely to be readmitted to the hospital in the subsequent 30 days," says Freburger. "Our findings also suggested that the earlier a patient receives care and the more intensive the care is in regard to number of visits, the less likely he or she is to be readmitted."

The researchers found compelling evidence that the ratio of registered nurses to patients and the supply of primary care providers in the patient's county of residence were positively associated with receiving care in both acute and community settings. These factors also had a positive impact on the continuity of care.

"The goal of physical therapy is always to keep patients physically active and managing their own care," says Freburger. But she notes that the study showed underutilization of rehabilitation care in community settings after stroke.





▲ Samannaaz S. Khoja, left, and Janet Freburger analyze Medicare data from more than 24,000 patients.

“As physical therapists, we need a better understanding of why patients aren’t receiving needed rehabilitation care after a hospitalization so we can figure out ways to improve access to physical therapy,” Freburger continues.

Right now, Freburger and Postdoctoral Associate Samannaaz S. Khoja (MS ’09, PhD ’16) are examining 12 years of data from a large national dataset to understand factors associated with physician referral to physical therapy. In spite of direct access, many insurance companies still require a physician referral for patients to receive physical therapy. So physicians play a key role in directing patients to physical therapists.

There were a few surprises along the way.

According to Khoja, they were surprised to see that the rate of physician referral to physical therapy declined over time. “As we continue to analyze data, we’re trying to understand why there was a drop,” explains Khoja. “We’re now looking at trends over that 12-year span.”

Khoja says they found many non-clinical reasons for the decline in referrals. Some were related to racial and socioeconomic disparities, while some reflected differences in insurance and the specialties of the referring—or non-referring—physicians.

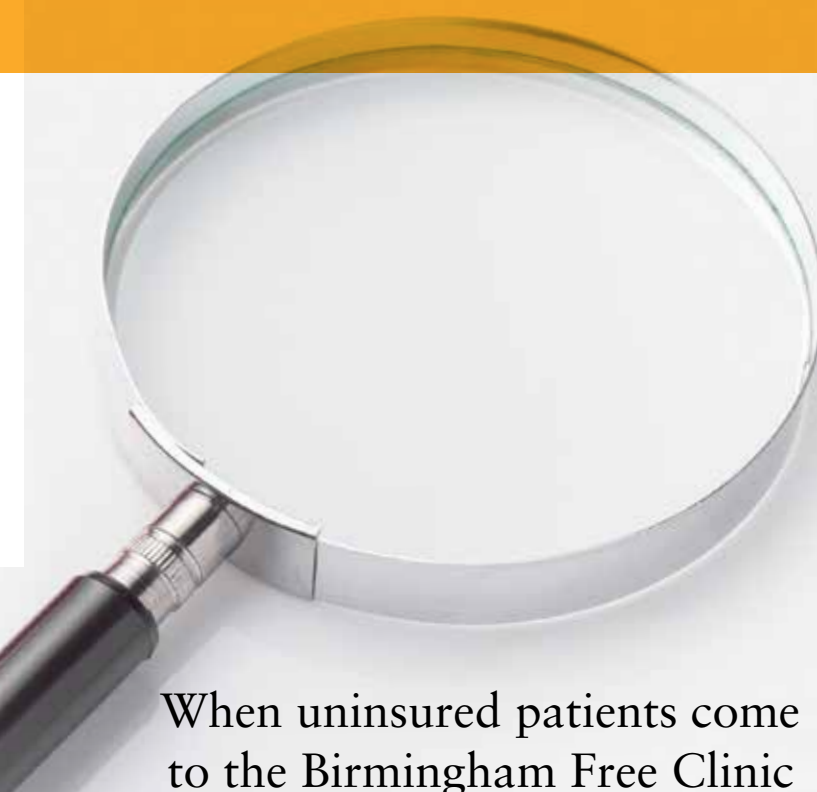
“We don’t want under-referral of therapy, but we also don’t want physicians over-referring patients,” adds Khoja. “It will take future studies to determine how we can optimize referrals.”

“We’re always trying to improve the quality of care at a lower cost,” says Freburger. “Health services research can help us find the answer.”

“Dr. Freburger’s work in health services research is critical in order to demonstrate the value of physical therapy, particularly in managing people with chronic health care conditions,” points out SHRS Dean Anthony Delitto. “Likewise, all of the professions within SHRS have an obligation to identify that sweet spot between under- and over-referral. Consequently, health services research, such as the work by Dr. Freburger, has emerged as one of the top research priorities in our recent strategic planning process.” ■



## OCCUPATIONAL THERAPISTS: PART DETECTIVE, PART EDUCATOR, ALL HEART.



When uninsured patients come to the Birmingham Free Clinic in Pittsburgh, they often are diagnosed with a variety of medical conditions. As a result, they have a difficult time managing the many stresses associated with their illness. They also may have secondary pain and don't understand why.

They can become frustrated, anxious, perhaps even exhausted, and have difficulty with or stop performing their daily occupations—that is, the activities of daily living (ADLs) that are important to them.

But thanks to Jennifer White, occupational therapist (OT) and instructor in the Department of Occupational Therapy, patients are learning how to make changes that will help them return to a more satisfying lifestyle.

“As occupational therapists, we ask the patient, ‘What matters to you?’ not ‘What’s the matter with you?’” explains White.

Working as part of a multi-disciplinary team of health care professionals, White and students from the Master of Occupational Therapy (MOT) program visit the Birmingham Free Clinic on a weekly basis. The primary care physician on staff screens patients for possible limitations in ADLs, and White and her team take it from there.

“We look at the whole person,” says White. “It’s not just about the pain, but how does the pain limit your ability to perform your daily occupations.”

White says OTs are detectives in a way, asking what activities the individual enjoys doing, has to do or is expected to do, and what the person’s goals are. “Once we start talking with them, we can recommend a course of treatment.”

“Sometimes a simple suggestion makes a big difference,” notes White. “It might be a matter of helping a patient set up a calendar reminder to take daily medications or refill a prescription to avoid unnecessary trips to the emergency room. Or perhaps it’s a suggestion to apply heat prior to an activity that might cause pain.”

She recalls one patient who came to the clinic because of chronic back and knee pain. “Through the evaluation process we discovered that she spent a great deal of time in the car driving her children to various events and running errands for her busy family,” says White. “By adjusting the driver’s seat just one click closer to the steering wheel, she now has less stress on her knees and back.”

Clinical Director Mary Herbert says that White has been a wonderful addition to Birmingham’s provider team.

“Having an OT here has been an educational experience for both our staff and current providers,” Herbert admits. “We really had to be re-educated as to all of the wonderful things that occupational therapists can do for our patients. Even at a clinic such as Birmingham, where we encourage our physicians to take as much time as they need with patients, there still may not be enough time to do everything they would like. Having OT services available can help us fill some of those gaps in care.”





*Jennifer White, center, observes former student Stephanie Rouch, right, as she helps a patient manage chronic pain.*

“As a free clinic, it is not uncommon for us to see patients with conditions that one traditionally associates with needing OT, such as patients who have had a stroke,” Herbert continues. “These uninsured patients would rarely, if ever, be able to get the vital occupational therapy they need after discharge due to lack of coverage. Having this available at Birmingham is beyond valuable for these patients.”

Stephanie Rouch (MOT '17) was a graduate student who worked under White's supervision at the clinic prior to completing her degree. “Jennifer taught us to creatively apply our OT training to facilitate self-management of individuals at the clinic,” says Rouch. “This included non-pharmacological strategies to manage pain coupled with organizational strategies to implement healthy behaviors.”

“Being in a primary care environment like the Birmingham Free Clinic is a newer idea for OTs,” says White. “But OTs belong in a lot of different settings, and definitely do wonderful things when we bring our skills into a non-traditional site.”

“Jennifer has been leading some great efforts working with underserved populations experiencing chronic conditions at the Birmingham Clinic,” observes OT Assistant Professor Alyson D. Stover. “Her work there has been a great example of interdisciplinary care and training students to become ‘new age’ practitioners.”

“She is so approachable, kind, and compassionate—both personally and professionally,” adds Herbert. “Jennifer makes everyone around her interested in OT because of her enthusiasm and commitment to the field.” ■





# CHANGING YOUR RELATIONSHIP WITH PAIN.

There are many layers to pain. If you think about it, there is the physical sensation, such as an ache, a throb, or some other discomfort. There's also your mental resistance to it, the anger that is a result of it, and even the fear that the pain will not go away or that it will physically or emotionally limit you in some way.

▼ *Mindfulness-based stress reduction utilizes a combination of meditation, exercise, stress physiology, and psychology.*





Dr. Kelly Battle Beck, faculty instructor in the Clinical Rehabilitation and Mental Health Counseling program, invites individuals with chronic pain to deliberately, purposefully, and non-judgmentally acknowledge their pain using Mindfulness-Based Stress Reduction (MBSR). It teaches individuals to change their relationship with pain, living life with—not against—pain.

MBSR is an evidence-based, standardized program that incorporates a variety of traditions and scientific fields, including dharma teachings and vipassana meditation, as well as stress physiology and psychology, medicine, cognition, and neuroscience. Over the course of eight weeks, patients attend classes that incorporate different meditations and stretching exercises, and continue these practices during daily “homework” assignments.

“Patients gain an increased awareness of themselves as they learn more about their bodies and their pain,” says Beck, who is a qualified MBSR instructor and has been teaching mindfulness interventions for the past five years. “Both physiological and cognitive changes occur during this process.”

According to Professor Michael McCue, director of the Clinical Rehabilitation and Mental Health Counseling program, “Alternative treatment approaches such as MBSR have been documented to be beneficial for both the treatment and prevention of chronic illnesses and conditions.”

“Building emotional resilience through techniques such as MBSR can serve as a preventive method to allow a more adaptive response to future stress and illness,” he notes.

Dr. Carol M. Greco, associate professor of Psychiatry and Rehabilitation Science and Technology, has been teaching MBSR for 12 years and is a senior certified MBSR instructor.

Greco collaborated with faculty, including Beck, across the University to establish the Center for Mindfulness and Consciousness Studies, which is housed within Pitt’s Graduate School of Public Health. She says patients with chronic pain have often asked her, “Why would I want to pay attention to my pain? I just want it to go away!”

She points out that when patients with pain move in close to their direct experience and mindfully acknowledge that it is there, new choices open up for them. “They can choose to let go of the extra muscle tension that often accompanies pain. They can breathe a compassionate breath to the challenging body sensations and emotions. They learn new ways to take care of themselves in the moment.”

“So many people have found that pain lessens significantly with this careful, nonjudgmental attention,” Greco adds. “But it takes practice, and patience!”



Greco and Beck have successfully taught mindfulness interventions to individuals with a variety of conditions that involve pain, including stroke, traumatic brain injury, diabetes, cancer, chronic low back pain, and lupus.

But recently, Beck took her knowledge of MBSR and tested the feasibility of using it with adults diagnosed with Autism Spectrum Disorder (ASD). Although MBSR has robust, lasting effects on improving quality of life and reducing anxiety and stress in people with chronic pain, it has never been utilized with the ASD population.

“Individuals with ASD report lower quality of life and well-being than those without ASD,” states Beck. “They also have difficulty regulating their emotions and focusing their attention, which further adds to their stress.”

In a small clinical trial, 12 adults with ASD met as a group and completed an eight-week MBSR program. Beck says the feasibility study proved to be quite successful. Participants felt MBSR was safe and well-tolerated. They reported an improved positive outlook, greater satisfaction with life, and more mindfulness.

According to Beck, the feasibility study provided evidence that MBSR is a viable option for adults with autism. “There are many social interventions for this population, but this teaches them to increase awareness and regulate emotions,” she explains. “MBSR can do that, and in so doing, helps these individuals develop the inner resources they need to deal with life’s challenges.”

McCue points out an additional benefit. “Evidence-based group interventions like MBSR have the potential to minimize health care costs associated with chronic illness, anxiety, and depression.” ■



# FIRST RESPONDERS REACT TO THE OPIOID EPIDEMIC

When N. Alex Cutsumbis (BS '10) was a student in the Emergency Medicine (EM) program, he recalled seeing at least one patient overdose on narcotics every semester.

“Now students talk about how many ODs they see per shift,” says Cutsumbis.

Currently an instructor for Pitt's EM program, Cutsumbis says the opioid epidemic is having an impact on first responders because they are on the front line of care.

According to Cutsumbis, “We don't have a single student who has not pushed NARCAN, the powerful nasal spray naloxone that is used to combat suspected drug overdoses. And there's not one student who has not had to deal with the devastating effects of drug addiction on families.”

Cranberry Township Emergency Medical Service Deputy Chief Ted Fessides, a 2013 EM graduate, reports that his team administered NARCAN 16 times in 2016. “By the end of May 2017, we had already given 16 doses.”

Fessides says there is no stereotypical opioid user. “Of course we see the young teens and those in their early 20s. But more and more, it's folks in their 40s and 50s or older. And it's across all socioeconomic groups,” he explains.

“In today's world, there's a general belief that no one should be in pain,” adds Cutsumbis. “This idea, coupled with other societal factors, has contributed to the increased use of prescription pain medication. Oftentimes, addiction is the result.”



Although the Centers for Disease Control and Prevention reports the number of prescriptions for oxycodone, a commonly prescribed narcotic, has fallen by 40 percent since 2010, opioid deaths are still on the rise. In fact, they're up 33 percent in the past five years. The reason, says Cutsumbis, may be that the potency of these drugs has drastically increased. That translates to more paramedic calls. And an increased need to prepare first responders for what they will be facing.

While EM personnel have always been trained to manage a variety of medical and trauma emergencies including drug overdoses, the current environment is different. Cutsumbis finds he must allocate more time to the topic of opioid abuse in his courses, and include it in refresher courses for existing paramedics.

Dr. Tom Platt, EM associate professor and vice program director, points out that it's more critical than ever to focus on provider safety. “We encourage students to constantly assess every situation,” says Platt. “Will the victim become violent? Are there things like needles at the scene that could put the responder at risk?”



In addition, Cutsumbis says that first responders often find themselves in the middle of controversy about treatment for opioid overdose. He cites the case of a Middletown, Ohio councilman who recently proposed a three-strikes penalty—in essence, prohibiting EMS from using NARCAN to treat an overdose victim who had required two previous interventions.

Cutsumbis says there is no room for judgment when it comes to saving lives. “I always ask students, would you react this way if you were called to treat a diabetic who hadn’t taken care of himself?”

“Our role as EMS providers is to reduce mortality and morbidity through our care,” explains Platt. “Naloxone administration clearly fits that role. The next step is getting the patient additional assistance.”

When Cranberry Township saw the number of drug overdoses rise last year, they started the Hope program, which refers the patient to a rehabilitation agency.

EMS personnel leave the Hope card with a family member or friend who is on the scene, or with the patient if he or she is alone.

“It’s a very vulnerable time for the patient, especially if it’s the first time they have overdosed and had that near-death experience—and that’s what it is,” explains Fessides.

He says that it often takes more than one attempt to convince someone to start rehab but his EMS team will continue to try. “Everyone has their own rock bottom, and the patient needs to hit that point before any change can occur. But in my opinion, there are only two choices—get clean and go back to society, or die. There is no middle ground for the opioid addict.” ■





## THE REAL WORLD

Nick Oleson's career path has taken more than a few twists and turns. When he was growing up, he dreamed of being an actor. When that didn't materialize, he became a gymnastics and cheer coach. His interest in the human body and its mechanics led him to earn a physical therapy assistant license in North Carolina. But he felt like something was missing.

*Oleson says each patient has a unique set of needs that PAs must address.*



He returned to his native Western Pennsylvania and crammed two years of higher education into one to finish his undergraduate degree, a BS in Natural Science from Pitt's College of General Studies, in 2015. He immediately enrolled in the Physician Assistant Studies (PA) program at SHRS.

Now that he's on track for donning a white coat, Oleson couldn't be happier. "This is what I was meant to do," he explains.

Emily Murphy, assistant professor and clinical coordinator for the PA program, says Oleson draws on past experiences to enhance his professional practice. "He learned the importance of patient care and education during his time as a physical therapy assistant. These are valuable skills that a PA uses during daily practice."

During his clinical rotation at Children's Primary Care Center in Turtle Creek, Pa., Oleson discovered that flexibility is another much-desired skill, especially when dealing with children. "Babies and toddlers are not always the easiest patients to examine," he laughs. "I learned to go with the flow. When a baby's eyes are open, that's the time to examine her eyes. When she yawns, that might be the best time to look for a new tooth emerging."

Although he took his academic coursework seriously, Oleson says the real learning takes place in the field. "The repetition of seeing certain conditions over and over really helps to cement concepts in my mind."

"Putting a face on the patient is so important," he continues. "In the classroom, it's not always easy to remember hypothetical situations, such as a patient's medical history, the medications they're taking, and the symptoms they present. But once you actually see and interact with the patient, you're not dealing with theory anymore. You're treating a person who has a unique and complicated set of needs. Suddenly everything you've learned in the didactic portion of your training kicks in!"

Oleson sees himself growing as a medical professional. After each of his clinical rotations, he evaluates himself. "I like watching how I've improved and grown as a practitioner," he says.

Physician Assistant Emily Barker served as Oleson's preceptor at Children's Primary Care Center. She was impressed with him from day one.

"Based on his prior education and clinical experiences, Nick was well-prepared to see primary care patients," says Barker. "More important than his knowledge of normal development and immunization schedules were Nick's comfort and ownership in the role as primary care provider."

Barker worked closely with Oleson, but also gave him the freedom to interact with patients and their families.

"Nick showed a genuine compassion and concern for patients," adds Barker. "And he consistently demonstrated excellent clinical knowledge, judgment, and work skills."

Oleson was responsible for interviewing the child's parents or caregiver prior to the physical exam. For wellness visits, that meant ensuring that immunizations were up to date and baby's growth and development were on track. For sick visits, he would assess the child's symptoms.

"In a pediatric practice, you see a nice variety of things," observes Oleson. "Parents are always interested in talking about their children and learning how to keep them healthy."

Because Children's Primary Care Center is a UPMC teaching facility, Oleson found it to be an excellent learning environment. "There are always good discussions going on between the pediatricians, residents, and medical students," says Oleson. He recalls a "Jeopardy!" type game going on in the hallway one day, with a doctor quizzing students about immunization schedules for children.

"We're all constantly learning and reinforcing our learning," Oleson adds.

With this type of attitude, he is bound to succeed.

"Nick has always been a dedicated and hardworking student," notes Murphy. "On clinical rotations, he has been professional, enthusiastic, and eager to gain more experience and medical knowledge." ■

# SHRS STANDINGS

in 2017 *U.S. News & World Report* Survey  
of Best Graduate Schools\*

1

**PHYSICAL THERAPY**

4

**OCCUPATIONAL THERAPY**

7

**AUDIOLOGY**

7

**SPEECH LANGUAGE PATHOLOGY**

*\*Physical Therapy – Pitt shares #1 with University of Delaware, University of Southern California and Washington University at St. Louis; Occupational Therapy – Pitt shares #4 with University of Illinois, Chicago; Audiology – Pitt shares #7 with Northwestern; Speech Language Pathology – Pitt shares #7 with MGH Institute of Health Professions, University of Arizona, University of Kansas and University of Texas, Austin.*