

SPRING/SUMMER 2018

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NEW PROSTHETICS
RESEARCH: A STEP IN
THE RIGHT DIRECTION

FACETS SCHOOL OF HEALTH AND REHABILITATION SCIENCES

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PittSHRS

School of Health and Rehabilitation Sciences

FROM THE DEAN



Greetings,

It's difficult to discuss health care in the United States and not talk about high costs and inefficiencies. As educators, we are obligated to produce highly skilled graduates who are capable of practicing at the "top of their license." At SHRS, we are proud to boast our highly ranked programs and scholarly accomplishments. But what are we doing to help address high costs and inefficiencies?

In this issue of *FACETS*, we hope to display how seriously we take the charge to do our part to improve efficiencies in health care delivery. If we are to remain relevant, it will be incumbent upon us to prove that "Care in Place" models are not only innovative but also efficient; that is, they improve patient outcomes and reduce costs.

Some areas of efficiency are straight-forward and inherently incorporate improved outcomes. Perhaps the best examples are comparative effectiveness studies where we answer the simple but compelling question: "Which is better, treatment A or B?" See how Dr. Fiedler and colleagues are using comparative effectiveness research to study the efficacy of specific prosthetic liners (page 28). In many instances, effectiveness of care is indefinable because part of the equation is missing. Thus the need for studies that refine patient-centered outcome instruments, such as the study by Professor McNeil, Associate Professor Dickey, and colleagues (page 22).

Underserved communities present their own unique challenges in health care delivery. We feature two separate articles on innovative approaches to common health problems in underserved communities here in Pittsburgh and beyond (pages 20 and 34). And one feature highlighting Dr. Schneider and his team (page 26) demonstrates how, at times, we may need to "shore up" our entry-level skills to meet the demands of certain patient types. The primary spine practitioner program has the promising potential to improve efficiencies in care for people with spinal pain.

Another challenge across all SHRS departments and programs is how, quite often, the services we provide in various health care environments are siloed, or delivered in relative isolation of other professions. This continues to occur despite ample evidence that collaborative approaches to care improve outcomes and reduce costs (once again, providing efficiencies). While we can create interprofessional scenarios in the classroom, the result is sub-optimal and does not adequately represent real-life clinical situations. Assessing team-based models of care in a nursing home environment is presented by Dr. Leland (page 30) in this issue.

At SHRS, our students and faculty members are meeting the challenge of delivering more collaborative and efficient care and we remain enthusiastic about these innovative health care delivery models. In most instances, we are accommodating our clients' wishes. After all, what client would not opt for efficient and effective care?

Anthony Delitto

Anthony Delitto
Professor and Dean



If you love, you are a philanthropist.

Whenever I ask someone about philanthropy, their thoughts typically turn toward those famously wealthy men and women whose transformative gestures have changed the course of communities and institutions in one fell swoop. Individuals like Warren Buffett, Bill Gates, Oprah Winfrey, and of course here in Pittsburgh, Andrew Carnegie, Henry Clay Frick, and Andrew Mellon come to mind.

Their names grace the marquees of buildings while the funds they endowed support libraries, museums, public spaces, schools, and hospitals. There is no denying the impact of that generosity.

But I believe our collective fascination with the famous, wealthy, and famously wealthy has done us a disservice when it comes to understanding philanthropy and our role within it.

Philanthropy, after all, is not limited to the extremely wealthy. It is not relegated to those multi-million-dollar commitments that might shift the world off its axis for a moment. Rather, philanthropy, at its core and origin, is integral to each and every one of us.

The word philanthropy comes from ancient Greek: *philos* = love, and *anthropos* = mankind. The word literally translates to the love of mankind. So, whenever you share your love with others, you are a philanthropist. And the School of Health and Rehabilitation Sciences is undoubtedly full of love.

Over the last 18 months, I have had the privilege of getting to know many SHRS alumni, faculty, former faculty, students, and friends around the country and right here in Pittsburgh. Despite the wide-ranging diversity of our school's many academic offerings, SHRS students and graduates share a common motivation to help people, improve communities, address disparity, provide access, and heal those in need. The philosophy that serves as the foundation for all philanthropy also drives our students and graduates in the pursuit of their careers and service to their communities.

I have also had the opportunity to see the many ways in which SHRS alumni and friends show their love for their alma mater. Whether through gifts of time and expertise or financial contributions, both large and small, the spirit of philanthropy is alive in our community. And it has been a key driver in our success since the school's formation in 1969.

Today, and every day, I invite you to join your classmates, friends, fellow graduates, and fellow health care professionals and share your love with the next generation of SHRS students. Please consider incorporating the School of Health and Rehabilitation Sciences into your annual philanthropy by making a gift to support scholarships, volunteering as a student mentor or an SHRS Social-ite, or including SHRS in your estate plans. These examples are just a few of the many ways in which you can make a lasting impact on the lives of students and the future of SHRS. I look forward to helping you explore those opportunities.

Hail to Pitt!

Greta Daniels
Director of Development

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perspective

Perspective is 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.

The School of Health and Rehabilitation Sciences, through its faculty, staff, students, and alumni, has a long history of service to others. Our academic departments and programs naturally attract young people who want to provide care and support to those in need ... making life a little better for those around them.

About 18 months ago, the University of Pittsburgh introduced an initiative to expand the footprint of the University by creating Community Engagement Centers in underserved areas. An outgrowth of the 2016 Plan for Pitt, the Community Engagement Centers will be developed in multiple underserved Pittsburgh communities where partnerships are formed between Pitt, community entities and organizations, and community residents. The expectation is that the centers will grow and flourish, providing vibrant and dynamic services and programs that enhance or expand what's already available in the community. The plan calls for at least a 15-year life for the centers earmarked to inhabit existing buildings that will be rehabilitated or renovated for this new purpose. Students, faculty, and staff from schools and centers across campus are participating in this new, coordinated initiative.

The concept of engagement centers fits perfectly with SHRS's 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.* From SHRS's perspective, we could engage the community best through a health-based facility where students, under the supervision of licensed clinical preceptors, could hone their skills while addressing health needs of particular populations. Thus, the Wellness Pavilion concept was born.

The first pavilion is slated to open in early 2019 in Homewood, three miles from main campus. We expect to offer therapies (PT, OT, SLP), counseling (mental health, rehab, nutrition), screenings and interventions, educational classes and demonstrations, support groups, chronic disease management programs, and health fairs. It's a large task and an exciting venture that requires a long-term commitment and the expenditure of many resources—human resources the first among them!

Our students are eager to be involved. In fact, many see the Wellness Pavilion as an extension of what they've been doing in some of their classes—providing community outreach, compassion, and support as they offer their expertise to those interested in receiving them. And while the actual Wellness Pavilion site may not be ready for another ten months or so, our students, faculty, and researchers are continuing to advance their existing outreach efforts in countless locations and settings, as has been done for years.

You'll be hearing more about the Pitt Community Engagement Centers and the Wellness Pavilion in the months to come. Opportunities to participate in the pavilion will be detailed, including ways to support financially and through volunteerism. I hope you choose to enrich your engagement with SHRS by supporting this meaningful effort.

To comment or share your insights on this column, please contact Patty Kummick at pkummick@pitt.edu, 412-383-6548, SHRS, 4054 Forbes Tower, Pittsburgh, PA 15260.

Alumni News

Clinical Rehabilitation and Mental Health Counseling

Dr. Veronica Umeasiegbu (MS '09) won the 2017 National Council on Rehabilitation Education's New Career in Rehabilitation Education Award. The award is presented to a junior rehabilitation educator who is making strong contributions to the field. Umeasiegbu is an assistant professor at the University of Texas Rio Grande Valley.

Communication Science and Disorders

Dr. Martin Brodsky (PhD '06), associate professor of Physical Medicine and Rehabilitation, Johns Hopkins University, co-presented "Mechanical Ventilation & its Aftermath: Assessing Oral Feeding Safety in Patients Receiving Respiratory Support" with **Dr. James Coyle**, professor, at the American Speech-Language-Hearing Association convention in Los Angeles, Ca.



Portland State University.

Dr. Shelly Chabon (PhD '80) was recently appointed vice provost for Academic Personnel and dean of Interdisciplinary General Education,



Bridget Allen Chapman (MA '09) was appointed clinical assistant professor, Department of Speech and Hearing Science, The Ohio State

University. Chapman currently teaches and provides supervision to graduate clinicians in the OSU Speech-Language-Hearing Clinic. Her focus of interest is working with children and adults who stutter. She recently authored "Change, Choice, Chance, Challenge" in the February 2018 issue of *The ASHA Leader*.

Ryan C. Branski (PhD '05) has been named fellow of the American Speech-Language-Hearing Association.



Craig Coleman (BA '98, MA '00) is an assistant professor at Marshall University and chair of Graduate Admissions in the Department of

Communication Disorders. Prior to joining the Marshall faculty, he spent more than 12 years serving as clinical coordinator and co-director of the Stuttering Center at Children's Hospital of Pittsburgh. Coleman is a former two-term president of the Pennsylvania Speech-Language-Hearing Association (PSHA), and in 2011, he was awarded the Clinical Achievement Award of PSHA and was awarded Honors of PSHA in 2015. Coleman was a presenter on stuttering prevention at the convention of the Pennsylvania Speech-Language-Hearing Association, Pittsburgh, Pa., in March 2018.

Health Information Management

Sallie Arnett (MS '97) was named by *Becker's Hospital Review* as one of the 100 Community Hospital CIOs to Know 2017. As vice president of Information Systems and CIO, she led Licking Memorial's efforts to achieve HIMSS EMR Adoption Model Stage 6 and meaningful use attestation. Hospitals and Health Networks named Licking Memorial Health Systems, Newark, Ohio, among Health Care's Most Wired in 2017. This was Licking Memorial Health Systems' fourth Most Wired award under Arnett's leadership.

Alexandra Krehel (BS '17) is working as a clinical specialist for German-based Brainlab, a medical device manufacturing company. Her job involves running a navigation system for spinal and cranial image-guided surgery in a Long Island hospital operating suite.

Shireen Thomas (BS '04) was the recipient of the Junior Achievement Young Professionals IT Award.

Erh-Hsuan Wang (MS '09, PhD '14) was hired by the University of Pittsburgh's Program Evaluation and Research Unit (PERU) as a research data analyst.

Cindy Zak (MS '82) was recognized by Iron Mountain with the Information Governance Early Adopter Award for her role in advancing information governance in her organization and across the health care industry. Zak is executive director, Corporate Business Services, Yale New Haven Health, New Haven, Conn.

Physical Therapy

Denise English (BS '73) received the 2018 Global Health SIG Dr. Ronnie Leavitt Award for Leadership in the Promotion of Social Responsibility in Physical Therapy from HPA the Catalyst (the Section on Health Policy & Administration—APTA). The award recognizes leadership contributions to the section by members and volunteers.

Jessica Weinberg Neiss (MS '02) has established her own wellness and prevention practice in Pittsburgh. Neiss' practice is for older adults focusing on aging in place and keeping seniors strong and active as they age.

Rehabilitation Science and Technology

Dr. Mahender Mandala (PhD '16) won first place in the Inaugural Goldman Prize competition which seeks to improve education through innovation.

Faculty News

Communication Science and Disorders



▲ Best wishes to **Malcolm "Mick" McNeil**, distinguished service professor and chair, on his retirement. Dr. McNeil was awarded faculty emeritus status and was recognized for his 25 years of stellar service to the Department of Communication Science and Disorders. Besides being a mentor to many, he was also a prolific researcher who studied cognitive and linguistic mechanisms of aphasia and cognitive-motor mechanisms for apraxia of speech. He held multiple grants from the NIH and Veterans Administration and directed numerous masters theses and doctoral dissertations throughout his career. He was honored by colleagues, faculty, and staff including **Dean Anthony Delitto** (pictured left) and **Dr. Cheryl Messick**, professor and interim chair (pictured right).



Dr. Leah B. Helou (PhD '14) joined the Department of Communication Science and Disorders as an assistant professor. A voice-specialized clinician and researcher, her interests center on mind-voice pathways. In 2011, she founded the Transgender Voice and Communication Training Program at the University of Pittsburgh Voice Center.

Dr. Ellen R. Cohn, professor, co-presented a short course, "Telepractice & Tele-AAC," in November 2017 at the American Speech-Language-Hearing Association convention in Los Angeles, Ca.

Dr. James Coyle, professor, co-presented four times at the American Speech-Language-Hearing Association convention, Los Angeles. He also presented "Breathing, ICUs, and the Future of Our Profession" at the Pennsylvania Speech-Language-Hearing Association convention in Pittsburgh in March 2018.

Dr. Dawna Duff, assistant professor, was an invited panel presenter on "Technologies in Teaching—Ideas You Can Use" at the 2018 University of Pittsburgh Assessment and Teaching Conference in January.

Dr. Duff and **Dr. Erin Lundblom**, assistant professors, presented "The Roles of Reading Specialists and Speech-Language Pathologists" at the Pennsylvania Speech-Language Hearing Association annual convention, Pittsburgh. Dr. Duff also presented "What Works: Evidence-Based Vocabulary Intervention in School-Aged Children" at the convention.

Dr. Katya Hill, associate professor, presented "Implementing Evidence-Based Pediatric AAC Language Intervention" at the Pennsylvania Speech-Language-Hearing Association convention, Pittsburgh, Pa.

Dr. Paula Leslie, professor, co-presented on four topics related to dysphagia and quality care at the American Speech-Language-Hearing Association convention, Los Angeles.

Dr. Malcolm "Mick" McNeil, emeritus distinguished professor, presented on the topic "Selecting a Mentor" at an American Speech-Language-Hearing Association convention seminar.

Dr. Deborah Moncrieff, assistant professor, presented on auditory processing disorders at the Mid-South Conference 2018, The University of Memphis Department of Communication Sciences & Disorders, and at the American Speech-Language-Hearing Association convention.



▲ **Dr. Catherine Palmer**, associate professor, gave the keynote address at the Partnership in Rehabilitation: Research into Practice Conference, at King Fahad Medical City, Riyadh, Kingdom of Saudi Arabia. She was also able to visit with Pitt CSD alumni/students Abrar Alduraibi, Reem Mulla, and Rihab Al Kahlil, pictured with **Dr. Palmer** (second from left).

Dr. Susan Shaiman, associate professor, presented on clinical practice at the American Speech-Language-Hearing Association convention and at the Pennsylvania Speech-Language-Hearing Association annual meeting.

Linda Sustich was promoted to faculty as an instructor in the department. She serves as the school practicum liaison instructor and is currently the interim speech-language pathology clinical education coordinator.

Health Information Management

Dr. Mervat Abdelhak, department chair and associate professor, was appointed to the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) Board of Directors. CAHIIM accredits Health Informatics and Information Management academic programs.

Dr. Dilhari DeAlmeida, assistant professor, presented at the AOE Symposium in Anaheim, Ca. She also co-presented with **Dr. Valerie Watzlaf**, associate professor, and **Dr. Suzanne Paone**, adjunct assistant professor.



Faculty News *(continued)*

Dr. DeAlmeida was appointed chair of the Council on Excellence in Education Graduate Resource Alliance Working Group within the American Health Information Management Association (AHIMA).

Dr. Leming Zhou, assistant professor, presented a paper he co-authored along with **Dr. Valerie Watzlaf**, associate professor, and others titled “A Web-based Social Network Analysis System for Guiding Behavioral Interventions Delivery in Medically Underserved Communities” at the 2017 International Conference on Computational Science and Computational Intelligence.

Dr. Zhou also presented a paper he authored with **Dr. Bambang Parmanto**, professor, **Dr. Valerie Watzlaf**, associate professor, and **Dr. Mervat Abdelhak**, chair and associate professor, on the mHealth platform at the Hawaii International Conference on System Sciences.

Dr. Valerie Watzlaf, associate professor, was invited to attend the Ciox’s 2018 Luminaries event in Dallas, Texas, at the Deloitte University HIM Luminaries Lab to discuss the future of Health Information Management.

Dr. Bambang Parmanto, professor, has been leading a presidential initiative in telehealth and telemedicine to deliver quality health care to remote areas in Indonesia. **Dr. Andi Saptono**, assistant professor, is also involved in this telehealth initiative.

Occupational Therapy

Cara Lekovitch (MOT ’07) joined the department as instructor where she will provide guidance, mentorship, and supervision to students on-site during community-based fieldwork experiences. She has extensive clinical management experience including national roles in clinical leadership and the development of a national program to support the clinical supervision of therapy students.

Dr. Natalie Leland joined the faculty as associate professor. Her research focuses on understanding and improving care quality for older adults with interest in how occupational therapy can contribute to interdisciplinary patient-centered outcomes. She has been inducted into the American Occupational Therapy Association (AOTA) Roster of Fellows and was presented the 2017 Lindy Boggs Award.

Mary Lou Leibold, retired assistant professor, was awarded the 2018 American Occupational Therapy Association’s Retired Educator’s Commendation acknowledging her exceptional leadership and commitment to the advances of occupational therapy education.

Dr. Joanne Baird, assistant professor, received the 2017 School of Health and Rehabilitation Sciences Dean’s Distinguished Teaching Award. Additionally, she presented “Student Fieldwork Experiences: A Descriptive Study of Level I and Level II Practice Patterns,” at the 2017 AOTA Education Summit, Fort Worth, Texas.

Dr. Nancy Baker, associate professor, was elected to the Board of Trustees for the American Occupational Therapy Foundation. She also presented on carpal tunnel syndrome and rheumatic conditions at the American College of Rheumatology/Association of Rheumatology Health Professionals 2017 Annual Scientific Meeting, San Diego, Ca.

Dr. Roxanna Bendixen, assistant professor, was appointed to the American Occupational Therapy Foundation Scientific Review Group as a standing member for a three-year appointment. She also received funding from the Foundation to Eradicate Duchenne to study the “Use of a Powered Arm Support Device for Upper Limb Function in Non-Ambulatory Men with DMD.”

Denise Chisholm, professor, presented “The Power of Occupation: Energizing Your Passion,” keynote address at the Minnesota Occupational Therapy Association Conference, St. Paul, Minn.

Dr. Elizabeth Skidmore, professor and chair, presented a keynote plenary session, “Promoting Independence after Brain Injury: Specific Strategies for Training Individuals with Cognitive Impairments,” and an invited clinical practice session titled “Defining and Specifying Complex Interventions” at the 38th Annual Neurorehabilitation Conference (Braintree), Cambridge, Mass.



▲ **Dr. Alyson Stover**, assistant professor, was elected to the American Occupational Therapy Association’s Board of Directors. She also received the OT Award of Recognition from the Pennsylvania Occupational Therapy Association at its annual conference.

Dr. Lauren Terhorst, associate professor, presented “Evidence-based Pharmacological Interventions after Traumatic Brain Injury” and “Factor Structure of the Wheelchair Skills Test” at the American Congress of Rehabilitation Medicine annual conference in Atlanta, Ga.

Dr. Pamela Toto, associate professor, presented “Interprofessional Experiential Learning in Geriatric Primary Care” at the AOTA Education Summit, Fort Worth, Texas.

Physical Therapy

Dr. Christine McDonough has joined the faculty as assistant professor. Her research includes studying opioid use in management of low back pain, fragility fracture care and secondary prevention, fall prevention, and the application of contemporary disability and measurement theory and methods. She serves as editor of Clinical Practice Guidelines for the Orthopaedic Section and Academy of Geriatric Physical Therapy of the American Physical Therapy Association.

Tara Ridge-Hankin (MPT ’99, MS ’01) has been named assistant professor and vice chair for PT’s Post-Professional Education. She will develop educational offerings to support physical therapy residency and fellowship training for specialty areas. She has also served on the American Board of Physical Therapist Residency and Fellowship Education.

Dr. G. Kelley Fitzgerald, professor and associate dean of Graduate Studies, and **Allyn Bove**, assistant professor, had an article featured in the January 2018 *Physical Therapy Journal* on cost and effectiveness of physical therapy strategies for knee osteoarthritis.

Dr. Jay Irrgang, professor and chair, received U.S. Department of Defense funding to investigate the effects of timing of surgery and post-operative rehabilitation on length of time to return to pre-injury work and activities for military personnel and civilians with multiple ligament knee injuries.



Debora Miller, SHRS vice dean and associate professor, was the recipient of the LAMPLighter Leadership Award, Section on Health Policy and Administration, American Physical Therapy Association. She also was presented with the Carlin-Michels Achievement Award from the Pennsylvania Physical Therapy Association.

Physician Assistant Studies

David Beck, assistant professor, was recognized as Pennsylvania Educator of the Year by the Pennsylvania Society of Physician Assistants. Candidates are nominated by students or peers for inspiring and challenging their students and colleagues.

Rehabilitation Science and Technology

Dr. David Brienza, professor and SHRS associate dean for Research, and **Dr. Jonathan Pearlman**, associate professor, were awarded funding through the National Institute on Disability’s Rehabilitation Engineering Research Center (RERC) program to develop new test methods for wheelchairs and seating systems.

Dr. Rory Cooper, distinguished professor and FISA/PVA chair, was called an “Independence Engineer” in *O, The Oprah Magazine* for his innovative designs in assistive technology and devices to help those with physical limitations participate in activities more autonomously. **Dr. Cooper** was also named fellow of the American Association for the Advancement of Science. He was recognized in the category of Engineering for his contributions to science and technology, scientific leadership, and extraordinary achievements across disciplines.

Prosthetics and Orthotics

Dr. Goeran Fiedler, assistant professor, received funding from the U.S. Department of Defense to study temperature control of prosthetic liners which utilize phase-change material to reduce the body’s tendency to sweat thereby reducing the risk for pressure sores, impaired blood perfusion, and accidental falls among service members and veterans who use prostheses.

Sports Medicine and Nutrition

Judith Dodd, assistant professor, was the first recipient of the Connie Parker Community Service Award presented by Pittsburgh Community Services, Inc. Dodd was called an integral component of service efforts to strengthen individuals, families, and communities by bridging the gaps between poverty and sustained prosperity.

Dr. Bradley Nindl, professor and director, Neuromuscular Research Laboratory, received U.S. Department of Defense funding to study the mental readiness and resiliency of military service members who often endure high-stress work conditions.

Department News

Health Information Management

SHRS’s Department of Health Information Management was named as having the 8th ranked health information management degree program for 2017-2018 by *Health Information Management Degree Guide*.

Sports Medicine and Nutrition

The Nutrition and Dietetics undergraduate program ranked 7th nationally in College Factual’s top dietetics and clinical nutrition services programs category.

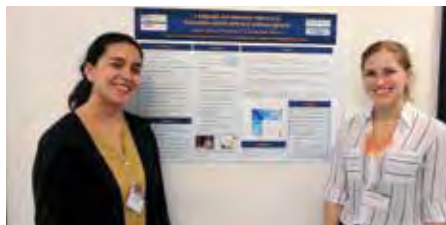


Student News

Clinical Rehabilitation and Mental Health Counseling

The Pitt Counseling Student Organization participated in and raised \$3,000 for the Pittsburgh National Alliance on Mental Illness Walk in October 2017.

Communication Science and Disorders



▲ CSD doctoral students **Haley Dresang** (*right*) and **Yina Quique** (*left*) presented a poster examining the performance of Colombian stroke survivors on measures of language and semantic-memory performance at Pitt's Global Health Forum.

Elizabeth Haley, CSD doctoral student, served as the first author for a poster titled "Central Auditory Processing Abilities in Blast-Exposed Veterans" at the American Speech-Language-Hearing Association convention. Professor **Sheila Pratt** served as one of several co-authors.

Marnie Kershner and **Annette Askren**, CSD clinical doctoral students in speech-language pathology, joined Professor **Paula Leslie** in presenting "What the SLP Needs to Know About Throughput: Big Picture Implications for Dysphagia Management" at the American Speech-Language-Hearing Association convention.

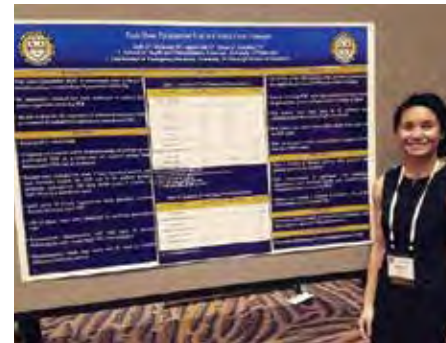
Hyun Seung Kim, CSD doctoral student, presented as first author "An Evaluation of Linguistic Variables for Identifying Agrammatic Production in People with Aphasia" with **Dr. Malcolm "Mick" McNeil**, distinguished professor, and others at the 2017 Annual Meeting of the Academy of Aphasia, Baltimore, Md., in November 2017.

Jolene Lawton, clinical doctoral student in speech-language pathology, presented a poster session, "Cut Throat Therapy: ACDF—Implications on Swallow Function," with **Dr. Paula Leslie**, professor, at the annual convention of the Pennsylvania Speech-Language-Hearing Association, Pittsburgh, Pa.

Sarah Pomfret, master's student in speech-language pathology, presented a poster, "Comparison of Swallowing Outcomes in Single vs. Double Lung Transplant Recipients," at the American Speech-Language-Hearing Association convention. Faculty co-authors include **Dr. Susan Shaiman**, associate professor, and **Dr. James Coyle**, professor.

Hyunsoo Yoo, CSD doctoral student, presented the poster "Slowing in PWA is Attributable to Both the Brain Damage & the Presence of Aphasia" at the American Speech-Language-Hearing Association convention. Co-authors included **Dr. Malcolm "Mick" McNeil**, distinguished professor, **Dr. Michael Dickey**, associate professor, and **Dr. Lauren Terhorst**, associate professor, Department of Occupational Therapy.

Emergency Medicine



▲ **Gabriela Galli**, senior, presented a poster titled "Push Dose Epinephrine Use in Critical Care Transport" at the National Association of EMS Physicians conference, San Diego, Ca., in January 2018.

Health Information Management

HIM seniors **Skyler Schmidt**, **Amanda Horst**, **Mikala May**, and **Lauren Chau** are working with the FOCUS + Pittsburgh Free Health Center along with **Dr. Leming Zhou**, assistant professor, and **Dr. Valerie Watzlaf**, associate professor, to abstract quality measures into a database and then compare what was abstracted manually to a sophisticated querying system that will be built to automatically extract those measures from the database. The students are doing this as part of their senior capstone course project and as part of their Quality Management course project.

Nutrition and Dietetics

Jacquelyn Klunk, student in the Coordinated Master in Nutrition and Dietetics program, received the Patsy Jane O'Malley Memorial Scholarship from the Academy of Nutrition and Dietetics Foundation.

Occupational Therapy

Marybeth Mosciarella, OTD student, was awarded the Connections4Health Community Health Fellowship with the Birmingham Free Clinic.

OTD student **Madeleine Wirth** and MOT students **Alexa Schreiber** and **Maria Violante** were selected for the Jewish Healthcare Foundation's 2017 Jonas Salk Health Activist Fellowship.

Alexa Schreiber, MOT student, was awarded the Department of Occupational Therapy Award of Professional Excellence for leadership in the promotion of occupational therapy through community service activities.

Sarah Walker, MOT student, was awarded the Department of Occupational Therapy Award of Scholarly Excellence for contributions to occupational therapy research through analysis of predictors of stroke rehabilitation outcomes.

Ashley Martin and **Madeleine Wirth**, OTD students, were awarded the Jewish Healthcare Foundation 2018 Fellowship on Death and Dying.

Monica Morrison, OTD student, was awarded the Lillian Gorell Scholarship Fund of the Pittsburgh Foundation.

Physical Therapy



▲ Forty doctor of physical therapy students participated in the annual musculoskeletal screening for marathon runners at the UPMC Rooney Sports Complex, Pittsburgh, Pa. The students worked with professional mentors to perform examination techniques and instruct in corrective exercises. More than 70 runners were screened in 90 minutes.

Rehabilitation Science and Technology



▲ Graduate student **Brandon Daveler** and his team at the Human Engineering Research Laboratories won the Kuzneski Innovation Cup through Pitt's Innovation Institute. The generous award, made possible by Laurie and Andy Kuzneski, supports students who are developing innovations that can positively impact people's lives. The winning project was PneuMobility and the creation of a pneumatically operated power wheelchair that can be used in water environments. (*Pictured left to right: Chancellor Patrick Gallagher, Daveler, Dr. Rory Cooper, Dr. Patricia Beeson, and Dr. Arthur Levine.*)



Over the past semester, Doctor of Physical Therapy (DPT) Student **Alex Brinlee**, with the help of fellow DPT students **Charlie Badawy** and **Jenn McKee**, organized a strength and conditioning program in conjunction with the Mighty Penguins Sled Hockey program designed for young athletes with disabilities.

"With our strength and conditioning program, we sought to provide athletes and families with the resources to help improve their functional ability at no cost," explains Brinlee. "Our goal was to improve on-ice performance, functional ability with ADLs and transfers, and injury prevention by helping provide athletes with the knowledge and tools to safely and effectively perform exercises designed to increase strength, mobility, and sports performance."

University of Pittsburgh student volunteers provide the greatest level of support for both the Mighty Penguins organization and the strength and conditioning program. But the strength and conditioning effort is intended to continue at home, which is why family members are taught how to support their young athletes off the ice.

The program has impacted participants and volunteers alike. For Brinlee, the most rewarding part was "watching the athletes push themselves to succeed, educating the athletes and families on the importance of exercise to improve their health and wellbeing, and helping to establish a good working relationship between the University of Pittsburgh DPT students and the Mighty Penguins."

Brinlee's hope for the future of the strength and conditioning program? That it continues beyond his time as a student.

"[Second-year students] Charlie and Jenn have both emerged as leaders who will help continue the program after I graduate," Brinlee notes. "If I remain in the area following graduation, I plan to continue to help the Mighty Penguins organization. I have developed a passion for working with adaptive athletes and I plan to continue to seek out opportunities to work with them in the future."



IN MEMORIAM



Raymond L. Blakely
July 6, 1944 – December 12, 2017

The Department of Physical Therapy was saddened to learn of the passing of Dr. Raymond Blakely, a 1966 graduate of the D.T. Watson School of Physical Therapy. Residing in Salisbury, Md., Blakely impacted the lives of many including those he taught and mentored up until his retirement from University of Maryland Eastern Shore (UMES).

Blakely earned an undergraduate degree at Ohio University, Athens, Ohio, in 1967, and a certificate in Physical Therapy from D.T. Watson in 1966. He received his Master of Education degree from Xavier University, Cincinnati, and a Master of Arts in Physical Therapy from New York University. He was also the first person ever to earn a PhD in Physical Therapy from New York University.

In 1976, Blakely joined the Department of Physical Therapy faculty at Howard University, where he was instrumental in strengthening the curriculum. He then moved to UMES where he spent nearly 35 years until his retirement in 2016. He served as chair of the Department of Physical Therapy and then as founding dean of the School of Health Professions. As chair, Blakely was instrumental in meeting accreditation standards for the undergraduate, graduate, and doctoral PT education programs. He also served as a physical therapist at numerous rehabilitation facilities.

Throughout his rewarding career, Blakely was highly honored and recognized for his contributions to the profession, to education, to his students and patients, and to the community. He leaves behind his wife of 38 years, Bettie; a daughter, Nicole E. Blakely; and a son, Brian W. Blakely.

Calendar of Events

APRIL

- Wednesday, April 18, 2018
Audiology Alumni Reception, Music City Convention Center, 201 5th Avenue S, Nashville, Tenn., 6–7 p.m., held in conjunction with the American Academy of Audiology 2018 Annual Conference. For more information, contact Emily Mente at emm191@pitt.edu.
- Thursday, April 19, 2018
Occupational Therapy Alumni Reception, Taqueria 27, 149 E. 200 S, Salt Lake City, Utah, held in conjunction with the AOTA Annual Conference & Expo. For details, contact Emily Mente at emm191@pitt.edu.

JUNE

- Tuesday, June 26, 2018
Athletic Training and Sports Medicine Alumni Reception, Rusty Nail, 1100 Constance Street, New Orleans, La., held in conjunction with the NATA Clinical Symposia & AT Expo. For details, contact Emily Mente at emm191@pitt.edu.

SEPTEMBER

- Monday, September 24, 2018
Health Information Management Alumni Reception, Miami, Fla., held in conjunction with the AHIMA Convention & Exhibit. For more information, contact Denise Iuzzolino at iuzzolinod@pitt.edu.

2017–2018 SHRS SCHOLARSHIP AND AWARD RECIPIENTS

The following is a listing of SHRS scholarships and awards granted to students during the 2017-2018 academic year.

Joyce and Andrew J. Kuzneski Jr. Student Resource Award (school-wide)
Michael Cohen
Rachel Grecco

Anne Pascasio Scholarship (school-wide)
Allison Morrison
Abigail Perez
Jessica Bender

Dr. Timothy C. and Mrs. Cynthia B. Sell Student Award (school-wide)
Jaime Arredondo
Jefferson Griscavage

Semantic Compaction Education Travel Fund Award (school-wide)

Rachelle Brick
Trisha Cousins
Kenneth Pechtl
Daniel Sutton
Margaret Anzalone
Luke Novosel
Jeanne Frisbie
Allison Morrison
Michael Thomas
Annette Askren
Amanda Mahoney
Erica Watson
Phillip James
Alicia Heim
Evan Knutson

SHRS Alumni Endowed Scholarship (school-wide)
Abby McKinley
Emily Flynn
Brianna Gross
Kylie Dunne
Mackenzie Lawton

UPMC Endowed Scholarship (school-wide)
Katrina De la Cruz
Brandon Daveler
Mikayla Redding
Zara Julin
Jefferson Griscavage
Giovanna Pilla

Mildred L. Wood SHRS Endowed Student Resource Award (school-wide)
Megan Laporte
Rebecca Young
Sarah Pomfret
Madison Ward
Caitlin Smith
Megan Gramm

AVADA Book Award (CSD)
Elise Lerario

Emeritus Award (CSD)
Sarah Pomfret
Lauren Eckhart

Audrey Holland Endowed Award (CSD)
Rebecca Hayes

Lisa Levy Award (CSD)
Angela Selby
Alyson Centola

Walt A. Stoy Award for Scholarly Activity (EM)
Nicolle Sweitzer
Zara Julin
Michael Cohen

Denise A. Duniyak Student Award (HIM)
Gianna Caballero

Laurine M. Johnson Endowed Student Resource Award (HIM)
Trina Dinh

Gerrilynne “Gerri” Siren Walk Memorial Student Award (HIM)
Julia Huber
Kavitha Pazhanisamy

Meagan Sampogna Williams Student Resource Award (HIM)
Kaitlyn Anderson

Cindy Zak Student Resource Award (HIM)
Allison Eckmann

Health Information Management Department Scholarship (HIM)
Hsin-Chieh Yang

Caroline Robinson Brayley Student Enrichment Award (OT)
Markia Ashe

Joan Rogers Student Resource Award (OT)
Kelly Stipetich

Department of Occupational Therapy Award of Scholarly Excellence (OT)
Sarah Walker

Department of Occupational Therapy Award of Professional Excellence (OT)
Alexa Schreiber

Dorothy Bradley Brown Scholarship (PT)
Alison Troilo
Paulina Tselikis
Megan Smutney
Abigail Perez
Kimberly Miller

Mary Behling Browne Scholarship (PT)
Emily Bjanas
Hillary Cummings
Alexander Brinlee

Pat Croce Endowed Student Scholarship (PT)
Ryan Fraass
Samuel Lucas

Mary K Daly-Crum Student Award (PT)
Ashley Saxe
Deanna Palatucci

David Physical Therapy and Sports Medicine Center/Joseph M. David Endowed Scholarship (PT)
Kristen Polaski
Deanna Palatucci

Anthony Delitto Scholarship (PT)
Megan Renn
Caroline Talda

Victoria Green Memorial Student Award (PT)
Christen Chiesa
Joseph Dietrich
Robyn McGowan

Patricia Leahy Student Scholarship (PT)
Brooke Alexander
Janelle Giblin

Pearl C. Mann Scholarship (PT)
Kaitlyn Colgan
Orlando Harvard
Angela Heintz

Alice Chagnot Oulette Endowed Scholarship (PT)
Krista Carlson
Orlando Harvard
Angela Heintz

PT Class of 2009 Student Award (PT)
Sumedh Shivkumar

PT Leadership Development Award (PT)
Nikki DiSalvio
Hillary Cummings
Erin Rasmussen

Paul and Judy Rockar Scholarship (PT)
Megan Renn
Laura Smith

D.T. Watson Alumni Scholarship (PT)
Emily Lyons
Paula McCorckle
Daniel Sutton

Physical Therapy Department Scholarship (PT)
James Tersak
Teresa Toomey

Rory A. Cooper and Dion Johnson Student Award (RST)
Nathan S. Hogaboom
Jorge Condiotti

Todd Hargroder Endowed Internship Award (RST)
Deepan Kamaraj

Virginia Kaufman Scholarship (RST)
Shannon Connolly
Morgan O’ Donald
Frank Billanti
Marcus Moorhead
Lauren Ferreri
Jessica Pacuch
Joy Nix
Adam Duncan

Thomas J. O’Connor Award (RST)
Joseph Ott

Sean and Stephanie Shimada Student Award (RST)
Kaila Grenier

Jill Conley Memorial Award (SMN)
Kevin Kozlik
Nicholas Mirabito

Dr. Freddie H. Fu Sports Medicine Graduate Research Award (SMN)
Caleb Johnson

Dr. Freddie H. Fu Undergraduate Athletic Training Scholarship (SMN)
Nathan Guerrier
Donovan Ashton
Jefferson Griscavage
Insiya Attarwala

Tim Kerin Memorial Scholarship in Athletic Training (SMN)
Sabrina Ness
Hannah Tremel

Nutrition and Dietetics Community Outreach Award (SMN)
Emily Seiler



MITIGATING CHAOS:

FROM EMERGENCY MEDICINE TO THE WORLD OF BUSINESS.



"OUT-OF-HOSPITAL EMERGENCY MEDICAL CARE IS A HIGH-STAKES GAME WHERE THE SITUATION IS DYNAMIC AND RULES CAN CHANGE AT ANY TIME. STEVE'S CURRENT WORK IN PRODUCT DEVELOPMENT SEEMS LIKE A LOGICAL NEXT STEP IN HIS PURSUIT OF EXCELLENT PRE-HOSPITAL CARE."

As an emergency medical provider, Stephen Norcup (EM '15) not only has the technical know-how to save lives—he also possesses the unique ability to assess any situation and create an immediate plan of action.

"We are trained to mitigate chaos," says Norcup. "When there's an unexpected turn of events or things aren't going exactly as planned, we must react quickly and responsibly."

Norcup finds this is a skill set that transfers well to the business world. Today, as director of Clinical Operations at Forest Devices, Norcup juggles a host of ever-changing responsibilities with agility and clarity of thought.

What might seem chaotic to others is all in a day's work for Norcup as he prepares to launch a revolutionary new product that will change the way strokes are detected in the field.

He is directing a series of clinical trials, submitting research proposals to Institutional Review Boards (IRBs), developing recruitment strategies, identifying and managing clinical sites, and educating clinical partners.

"We are constantly adjusting timelines," says Norcup. "But a big part of my job is evangelizing the product, which takes me back to my EM roots and my dedication to pre-hospital care."

Using a series of electrodes that are placed on the patient's head, emergency responders can immediately collect data to determine if the patient is experiencing a stroke. "It's like an EKG for the brain," explains Norcup.

With the data in hand, they can save time—and potentially lives—by beginning treatment immediately and transporting the patient directly to a stroke center.

Business and emergency medicine have been woven together in Norcup's career path from the beginning. Although he moved to Pittsburgh from his native Chicago to become an air traffic controller, he decided to attend paramedic school instead. This choice led him to the Emergency Medicine (EM) program at SHRS. After graduation, he accepted a job with a medical records company, where he met his current boss. He then decided to join Forest Devices, where he could use his emergency medicine expertise in an exciting start-up environment.

Norcup's former mentors are proud of his accomplishments. But they are not surprised that he is using his clinical knowledge in the business world.

"Out-of-hospital emergency medical care is a high-stakes game where the situation is dynamic and rules can change at any time," states EM Instructor John Pierce. "Steve's current work in product development seems like a logical next step in his pursuit of excellent pre-hospital care."

"He has always been open to new ideas and breaking barriers of convention," Pierce continues. "Steve also possesses excellent communication skills, so I knew he would excel in whatever domain he chose to pursue."

According to Walt Stoy, EM Program director and professor, Norcup approached him with the idea of assisting students with internships. One former student, Aleksander Keller (EM '16), worked as an intern under Norcup's supervision, helping to enroll patients in clinical trials.

Norcup wanted to bring student interns into the patient enrollment process because they understand how to converse with patients and explain complicated details. He believes they also have a solid foundation in business.

Norcup points to a semester-long Health Care Research class he took as an EM student. "It gave me a good primer on how research worked, including the rules, regulations, and approval process from IRBs," he says. "I constantly refer back to what I learned in that class."

Now Norcup is taking his education to a higher level. In spite of his busy schedule at Forest Devices and his continuing work as a paramedic, Norcup is enrolled in the Executive MBA in Healthcare program at Pitt's Joseph M. Katz Graduate School of Business.

"John Pierce was instrumental in guiding me towards the MBA program," explains Norcup. "He holds an MBA degree himself, and we had many conversations about how our training as paramedics and emergency personnel serve as a foundation for patient advocacy."

"Graduates like Steve have discovered that the EM program prepares them to function as competent practitioners but also positions them for success in the next step of their career ladder, whether it be practice, graduate school, or business," says Pierce.

"Steve is a wonderful example of the type of student we seek to have with us," adds Stoy.

Forest Devices was named a 2017 Health Care Heroes awardee by Pittsburgh Business Times. ■



THE HASSELL EFFECT

Sometimes it happens in the clinic; sometimes in the classroom. But there's a moment in time when students stop thinking like students and start acting like clinicians. For students in the Master of Science in Prosthetics and Orthotics (MSPO) program, it often happens when they witness the passion and drive of one particular clinical instructor. They've been transformed by "The Hassell Effect."



Gavin Hassell, director of orthotics at De La Torre O&P, Inc., and adjunct faculty in the MSPO program at SHRS, has been a certified orthotist for more than 27 years.

"Orthotics is more than a job to Gavin," reflects Certified Prosthetist Orthotist Bailee Allgyer (BS '09, MSPO '11). "He invests in the patients he cares for, the students he instructs, and the co-workers he stands beside daily. He taught me to take pride in my work and always push to get better."

There's one piece of advice Hassell always passes on to students. "When it comes to fitting a patient with a brace or a limb, you also have to fit their head."

"Obviously there's a great deal of biomechanics involved in our evaluation and fabrication process," explains Hassell. "But students also must bring a high level of creativity and artistry to this profession to ensure that patients are not only physically comfortable with what we are doing, but also psychologically on board with the decisions that we make together."

To ensure this happens, Hassell challenges students to ask "Why?" and not just settle for what might be the easiest or most obvious solution.

According to MSPO student Ryan Adams, "Gavin tells us not to be discouraged if something is not perfect right away. He encourages us to think on a larger scale about why something worked or didn't work."

De La Torre Pediatric Orthotist Ali Sinagra (BS '13, MSPO '15) agrees. "Gavin always pushed us to ask why something is done a certain way," says Sinagra. "He told us never to settle for a 'because that's how it's done' answer."

"Knowing why something is done is just as important as knowing how to do it," she continues. "If you know why, you can give the patient more information and improve compliance with the device."

Psychology plays a big role in compliance. And in patient satisfaction.

MSPO student Joshua Bravo took a valuable lesson away from Hassell's Materials and Spinal Orthotics class. "He made it clear that when you were working with children, you have to get the parent of the spinal patient fully committed to treatment or it would not work."

"Gavin encouraged me to listen to the patient," adds Allgyer. "He said that while I may have the book knowledge regarding a situation, the patient is living it daily, and their perspective is very valuable."

"But he also taught me to think about the way someone communicates with me, and not just what they are saying," she continues.

Allgyer remembers one patient who did not seem satisfied, even though the problem had been solved clinically. "After further questioning it became evident their frustration was more deeply rooted than the fit of the brace," she says. "Together, we were able to work through those insecurities and move forward successfully."



▲ Sinagra and Hassell are now colleagues at DeLaTorre O&P.

When the MSPO program began in 2009, Hassell immediately established De La Torre as a clinical site. In spite of his full schedule overseeing 24 orthotic clinicians at eight different locations, he remains involved with student education.

MSPO Program Director Sara Peterson explains that students rotate through De La Torre during their third and fourth semesters when they are observing and asking questions, and again during their fifth semester when they get hands-on experience under the supervision of a professional clinician.

"Gavin uses multiple teaching styles," notes Sinagra. "He engages students in complex discussions and then gives them hands-on experience to reinforce concepts."

"Students enjoy Gavin's direct style of teaching," says Peterson. "He is very knowledgeable and, because he has many years of clinical experience, he can easily inspire them to think outside of the box to problem-solve."

"The Pitt students we see are always clinically and technically prepared," notes Hassell. "My goal is to push them to be more creative and expansive in their approach. This is how they will grow as clinicians." ■



PLACES OF CARE.

SHRS brings our expertise to almost anywhere.

In today's health care landscape, the only constant is change. As clinicians and providers, and sometimes as patients ourselves, we are challenged to understand how new policies will impact outcomes.

At SHRS, change drives us to be more innovative and more thoughtful in our approach to health and rehabilitation. It creates opportunities for us to reach new audiences, develop non-traditional models of service delivery—and identify new places of care.

In some cases, the best place of care is in the hands of others.

Julen Rodakowski, assistant professor, Department of Occupational Therapy (OT), is encouraged by the RAISE Family Caregivers Act of 2017. Recently passed by Congress, the Act was created to Recognize, Assist, Include, Support, and Engage (RAISE) family caregivers, providing strategies to help them meet the sometimes overwhelming needs of their loved ones.

“Although RAISE is not rehabilitation-specific, it shows that Congress considers caregiving a priority, and all facilities, whether they be hospitals, rehabilitation centers, or nursing homes, must provide training to support caregivers in the important work that they do,” says Rodakowski.

Collaborating with the University of Pittsburgh's Health Policy Institute and UPMC, Rodakowski and Post-Doctoral Associate Beth Fields are developing needs assessments for caregivers. “In simple terms, we are creating tools that evaluate the skills and abilities of caregivers as well as their financial and resource needs so practitioners will be better informed,” explains Fields.

Rodakowski notes that while the RAISE Act mandates training, the needs assessment will address how and what training is necessary.

New places of care also exist in our communities.

Taking health care into the community is nothing new. But SHRS faculty and students are opening more doors than ever with programs that serve those who might not otherwise receive care.

Before the onset of winter, Zach Anzelone, lab manager, Prosthetics and Orthotics (P&O) program, recruited more than a dozen P&O students to participate in last year's Our Hearts to Your Soles event for homeless men and women living in the Pittsburgh area.

Student volunteers observed doctors performing foot examinations, filing calluses, and trimming toenails before they had the happy task of distributing new shoes or boots, along with cushioned insoles and three pairs of socks to each client.

According to Anzelone, “The students really lifted the spirits of the patients. But what's equally important, the students experienced the value of community service. No matter how much you talk about ethics in health care in the classroom, nothing drives it home as much as an experience like this.”

As a Natural Science major in the College of General Studies, Audrey Li volunteered to assist Jessica Magnu, adjunct instructor, Department of Sports Medicine and Nutrition, during donations through 412 Food Rescue at the Matilda H. Theiss Health Center in Pittsburgh's Hill District. The experience opened her eyes to the roles of providers.

“I realized that registered dietitians and nutritionists aren't just conducting face-to-face counseling sessions or assisting patients in a clinical setting,” reflects Li. “Their roles extend into the community.

“The food donations enhanced the quality of residents' lives by giving them access to foods that they probably would not buy on a regular basis, and educating them on why they should consume more of these nutritious foods,” she continues.

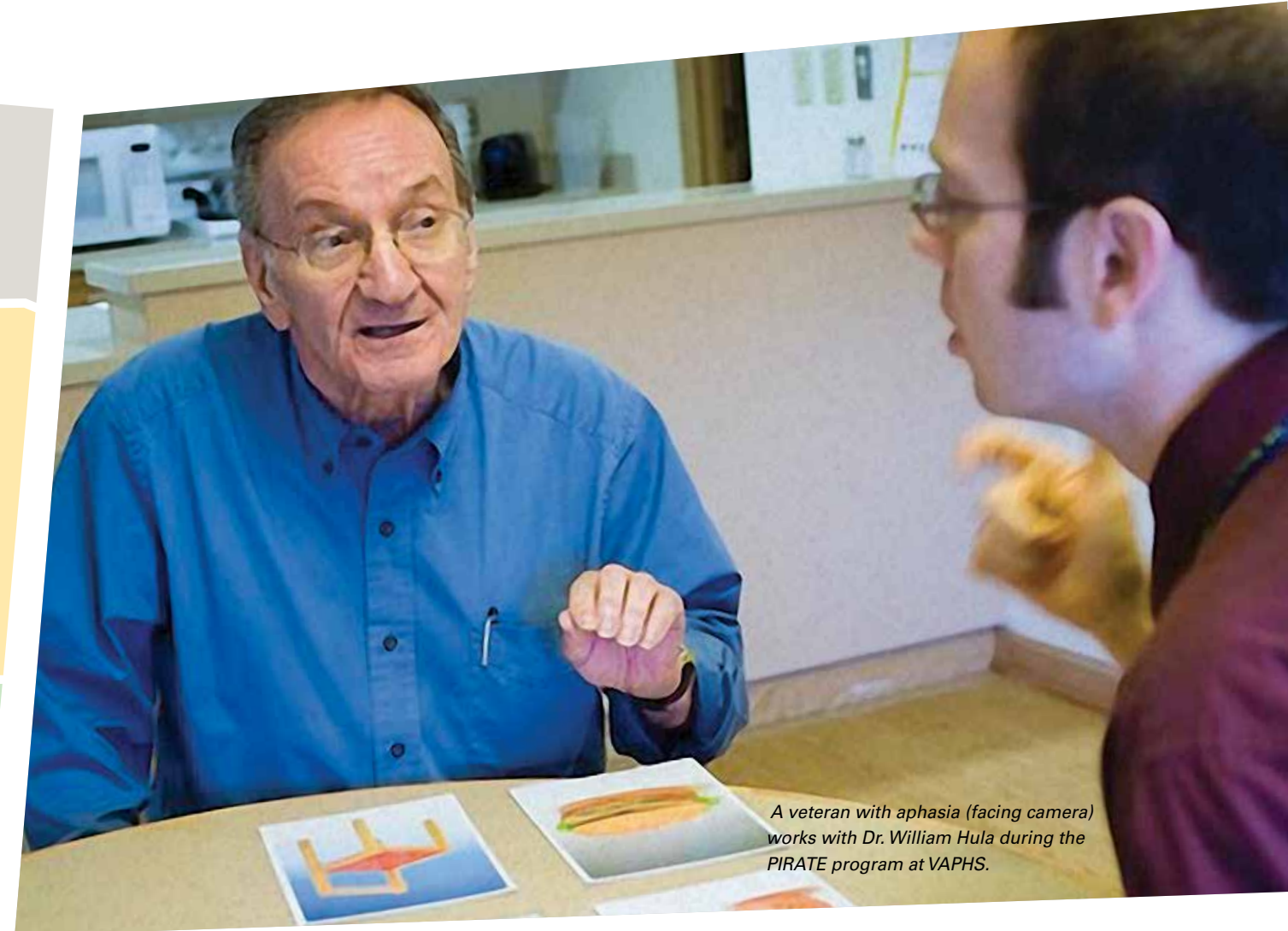
“This is such a rewarding experience for students,” says Magnu. “But it is even more important for the people who crowd the waiting room at the Theiss Center to receive their food donations. I know they are truly grateful.”

A place of care can be where patients live—and shop.

When individuals are diagnosed with cognitive disorders such as autism spectrum disorder, Attention Deficit Hyperactivity Disorder (ADHD), or specific learning disabilities, they often have limitations that affect their ability to complete the functional planning tasks required for independent living and community interactions.



Jessica Magnu sorts food donations at Matilda H. Theiss Health Center.



A veteran with aphasia (facing camera) works with Dr. William Hula during the PIRATE program at VAPHS.

Certified Rehabilitation Counselor Evan Knutson (BS '09, MS '13) is addressing these needs by developing a new instrument that measures functional planning through performance on a naturalistic simulated task as part of his dissertation project for his PhD in Rehabilitation Science.

Knutson and a team of other clinicians developed a tool to be used in the community to assess how individuals function in the context of real-world demands. He chose a grocery store where there are complex and unpredictable variables, and the need for many social interactions.

"The performance of individuals using problem solving and executive functioning in the grocery store often differs from what is observed in the rehabilitation space, which is a more controlled and structured environment," notes Knutson. "Using real-world performance, our clinicians are able to better understand an individual's cognition in the context of day-to-day living, and this allows rehabilitation counselors to create more precise and directive rehabilitation plans.

"It also provides a more meaningful experience and increased engagement on the part of these young adults," he adds.

New service delivery models create new places of care.

Veterans with aphasia often travel to outpatient clinics for treatment. It demands a commitment of several hours at a time, one or two times a week over a period of six to eight weeks. Although this traditional model can lead to good results, issues such as mobility limitations and access to transportation create barriers to care.

But thanks to PIRATE—the Program of Intensive Residential Aphasia Treatment and Education—veterans from all over the country travel to the VA Pittsburgh Healthcare System for one month of highly effective, evidence-based treatment.

A project of the VA Pittsburgh's Geriatric Research, Education, and Clinical Center (GRECC), PIRATE was developed by Patrick Doyle, associate director for research for GRECC, in conjunction with researchers from the Department of Communication Science and Disorders at SHRS, specifically Malcolm R. McNeil, professor emeritus, and Michael Walsh Dickey, associate professor.

"This is the only program of its kind in the VA system," notes Doyle. "We have the unique ability to house the patients and provide treatment under the same roof."

PIRATE provides patients with five hours of speech and language treatment daily, five days a week for four weeks. In addition, they receive personalized education about aphasia and plenty of support and encouragement from clinicians and their peers.

Doyle says a few similar programs exist in the private sector, but they cost more than five times as much as PIRATE. Through the VA, PIRATE provides services to veterans who cannot access care due to limited resources, or because they live in rural communities where such services are not available.

Is it working?

"Evidence suggests that receiving a high dose of therapy on a more intensive schedule can lead to better outcomes," says Dickey. Follow-up measures validate this theory, and are posted on the PIRATE website and published in peer-reviewed journals.

Eighty-eight percent of participants scored better on a test of speech and language skills after PIRATE than before. When the veterans were asked to rate their own improvement, 73 percent reported an improvement, while 80 percent of family members said they saw improvement.

As health care continues to evolve, SHRS will continue to embrace new places of care and new delivery models that support our mission.

"We are truly fortunate that we have always been blessed with having forward-thinking faculty working with ambitious students who together are bringing effective services to our clients," says Dean Anthony Delitto. "Due to their efforts, we continue to meet the needs of our clients in spite of increased demands and fewer resources." ■



DELIVERING HOPE, ONE POUND AT A TIME.

Lively and likeable, Ms. Henrietta Brown lights up the Matilda H. Theiss Health Center, a UPMC-operated facility serving residents of Pittsburgh's Hill District. She greets everyone with a big smile and a cheery "hello" every time she walks through the door.

But according to Jessica Magnu, registered dietitian and adjunct instructor in the Department of Sports Medicine and Nutrition (SMN), "walks" may not quite be an accurate description.

"When I first met Ms. Brown more than a year ago, she had tremendous difficulty walking because she was morbidly obese," explains Magnu. "She was in great pain due to hip and knee problems, and it took her 15 or 20 minutes to make her way across the room, with frequent stops to sit and rest."

The 78-year-old Brown attended Magnu's diabetes support group once a month, where she was happy to socialize with other members but reluctant to pursue more information on how nutrition could help improve her diabetes. And perhaps lead to weight loss.

Things changed when Brown's surgeon refused to perform a hip replacement surgery until her Body Mass Index (BMI) dropped to a level that was safe for anesthesia. She came to Magnu with a very specific goal: help her reduce her BMI—and weight—so that she could have the surgery she needed to get out of pain.

"I told her I would be there every step of the way," recalls Magnu.

Every two weeks, Brown met with Magnu to discuss food and nutrition, using food labels from products that Brown frequently buys. "We looked at the amount of fat and sodium in the products, along with the portion size," says Magnu.

Because Brown has a very limited income, Magnu encouraged her to take advantage of free bi-weekly food donations at the Theiss Center, and suggested they schedule their sessions on days the food was delivered.

She also showed Brown how to make a shopping list from weekly store flyers. "Using the visuals from the store ads, we talked about the value of buying fresh fruits and vegetables, and then balancing these with other healthy items that were on sale."

They discussed the importance of eating three healthy meals each day instead of devouring empty calories many times a day out of boredom.

Undergraduate Shanna Ridgley, who plans to apply to the Nutrition and Dietetics program, shadowed Magnu at the Theiss Center while she was taking her Human Nutrition class.

"Having the sessions with Jessica gave Ms. Brown the motivation to succeed because Jessica kept her accountable," says Ridgley. "They discussed what Ms. Brown was eating and what eating habits she needed to change. Jessica also showed her reliable internet sites that provided weight loss tips and food ideas."

With steely determination and a target of 1,500 calories a day, Brown gradually began to shed the pounds.

Brown looked forward to weighing in at every visit to the Theiss Center. "If she gained a pound or two, she would admonish herself and self-correct," notes Magnu. "She would say 'I know that was a bad choice and I won't make that mistake again.'"



Henrietta Brown and Jessica Magnu share a supportive moment. ▲

Through her consultations with Magnu, Brown improved both her knowledge of nutrition and her eating habits. Along the way, she lost approximately 50 pounds and lowered her BMI considerably. Although she's still in pain, her mobility has improved and she's ready to consult with the surgeon again.

"Nutrition counseling provided in the client's real-life situation on an ongoing basis is an effective method to incorporate and maintain changes," notes SMN Vice Chair and Assistant Professor Deborah A. Hutcheson.

"The rapport built with the clinic personnel can be a strong motivator for the client, especially when they are included as part of the health care team," she continues.

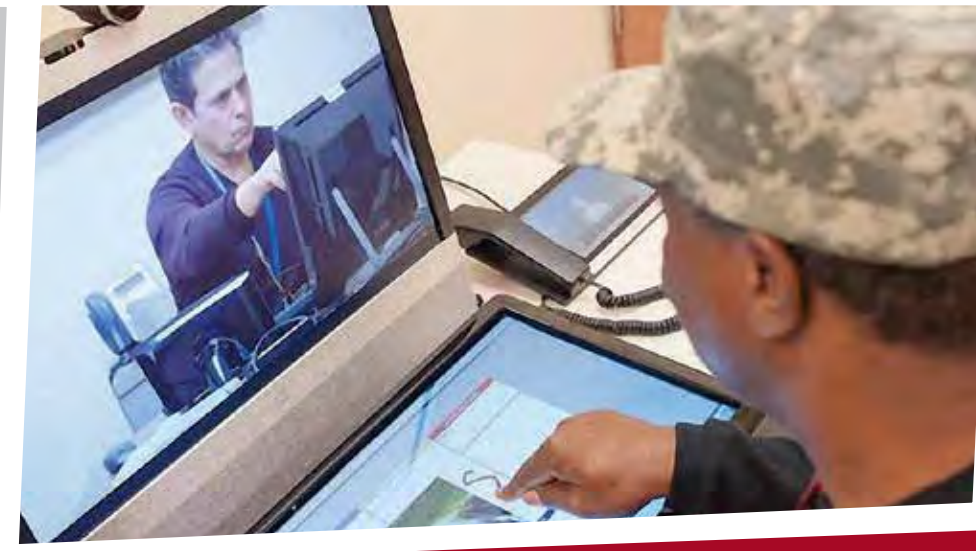
Magnu hopes to follow Brown to see if other co-morbidities, like her A-1C that measures blood glucose levels, have improved along with the weight loss.

"Ms. Brown is a great example of how a person, even in an underserved environment, can change," says Magnu. "Weight loss for the extremely obese is available for anyone, and covered by insurance for counseling by a registered dietitian nutritionist." ■



HOW EFFECTIVELY DO YOU...

- Ask for information from a store employee?
- Tell a joke?
- Start a conversation with other people?
- Explain how to do something?
- Find the words you want to say during a conversation?



◀ ACOM allows patients to explain how communications impairments affect their daily lives.

For most of us, every answer would be “completely effectively” or “mostly effectively.” Except, perhaps, for the question about joke-telling!

But for people with aphasia, it’s not that simple. Aphasia impacts a person’s ability to speak, to understand conversations, even to read and write. Yet researchers never had a complete picture of what it’s like to live with aphasia. Until now.

A team of researchers from SHRS’s Department of Communication Science and Disorders (CSD) and the VA Pittsburgh Healthcare System (VAPHS) has devised a new patient-reported tool for stroke survivors that measures the effect of aphasia on common activities of daily living.

The Aphasia Communication Outcome Measure (ACOM) is the result of years of work. VAPHS Speech Pathologist William Hula developed the tool in collaboration with VAPHS Associate Director for Research Patrick J. Doyle, CSD Professor Emeritus Mick McNeil, and Associate Professor Michael Walsh Dickey.

“People who survive stroke have experienced a devastating, life-altering event,” says Dickey.

“Now they may not even be able to hold a conversation with family members or friends, or place an order in a restaurant. They are living with tremendous disabilities.”

According to Hula, what makes ACOM unique is that it measures communicative functioning from the patient’s perspective. “Through ACOM, patients can tell us what type of communications deficits they’re experiencing and how these impairments impact their lives,” says Hula.

“We can then use this information to improve the efficiency and quality of care,” he adds.

“Specific technical measures, such as how many nouns or verbs a patient can use or how many speech sounds they can recognize, are valuable pieces of information,” Dickey continues. “In fact, these specifics are just as important to us as blood pressure and heart rate are to medical doctors.”

When ACOM is used, a patient sits with a speech pathologist in front of a computer and answers up to 59 questions related to daily communication tasks. These questions were selected from a preliminary set of more than 170 items using modern psychometric methods to maximize reliability and validity, and to minimize potential bias.

Recently the team developed a 12-item, computer-adaptive short form known as CAT-ACOM. The test takes less than ten minutes to complete, and Hula says that the adaptive algorithm limits the reduction in reliability that typically occurs when tests are shortened.

“The shorter assessment time reduces the stress of testing on patients and clinicians and also minimizes the loss of precision,” says Hula.

Soon, three new studies funded by the Veterans Affairs Rehabilitation Research and Development will test whether ACOM demonstrates reliable positive change after treatment.

In addition to testing language impairment from the patient’s perspective, ACOM results capture aphasia’s impact on activities and life participation related to communicative functioning.

Says Dickey, “For the first time ever, patients, through ACOM, are sharing not only what sounds or words are difficult for them, but what situations frustrate them and what levels of activities they can participate in. As we learn more about their level of functioning, we are better able to help.” ■

For your constancy and wisdom, thank you, Mick McNeil.

Skeptics might say all the planets were in perfect alignment. But anyone who knows anything about the Department of Communication Science and Disorders (CSD) understands that the meteoric rise in the department over the past 25 years—and advances in the profession itself—would never have occurred without the strategic vision and unswerving dedication of one man. Malcolm R. McNeil has indeed been our North Star.

As Dr. McNeil moves from Professor to Professor Emeritus, he leaves SHRS with a legacy built on intellectual curiosity, research rigor, and human compassion. All delivered with a touch of humor.

Cheryl Messick, interim chair and CSD professor, reflects on Dr. McNeil’s many contributions. “Mick changed the trajectory of our department,” she states. “He not only had the foresight to move us from the School of Arts and Sciences to the School of Health and Rehabilitation Sciences, he had a vision of what we could accomplish.”

CSD as it exists today became one of the first departments in the country to make its home surrounded by related health sciences.

During his tenure as chair, McNeil changed clinical education from an in-house model to what is now considered industry best practice. Today, CSD departments all across the country follow his lead, deploying students to community clinics and hospitals where they gain valuable hands-on experience from practicing clinicians.

With the new clinical education model in place, McNeil created the Doctor of Audiology (AuD) program, as well as the Doctor of Clinical Science (CScD) in Medical Speech-Language Pathology—the first of its kind anywhere. As the number of doctoral students grew, so did the faculty.

He methodically assembled a team of what he calls “world-class” researchers and educators who challenge conventional wisdom and elevate the profession.

Associate Professor Michael Walsh Dickey expresses gratitude for all that McNeil has taught him, saying, “Dr. McNeil is a scholar, mentor, and clinical scientist of the first order. His contributions to the understanding of stroke-related language impairments (aphasia) have been nothing short of transformative.”

McNeil has reconfigured the understanding of neurogenic disorders of both speech and language in over 120 peer-reviewed publications, 50-plus books, chapters, and published language assessments, and more than 450 presentations. His Computerized Revised Token Test to measure language performance in aphasia has become the gold standard for assessment of auditory language comprehension performance among stroke survivors. It has been translated and psychometrically validated into seven different languages.

His legacy as a mentor of numerous undergraduate, MA, and PhD students complements the wide-ranging influence of his scholarly work. In his nearly 25-year career at VA Pittsburgh Healthcare System and the University of Pittsburgh, he has received over \$7.7 million in extramural funding and was named both a VA Career Research Scientist and Distinguished Service Professor.

Despite his accomplishments, McNeil remains humble. “My most important and enduring memories come not from personal accomplishments, but from getting to know the many colleagues that I have had the good fortune to work with and learn from, and the many students who have taught me more than they realize and who allowed me to challenge their shibboleths,” he says.

McNeil predicts his former department will continue to shine. He foresees that the increased knowledge base and the increased scope of practice, particularly in speech-language pathology, will require the entry-level clinical practitioner to transition to the doctoral level. “Pitt CSD sits in the catbird’s seat, ready to set the standards and be the preferred model for such an entry-level clinical doctorate,” says McNeil.

Your light continues to guide us, Mick. Thank you for your insights, your collaboration, and your friendship.

CSD’s newly established Malcolm R. McNeil Endowed Fund will provide support for the educational expenses of clinical doctoral students, particularly those pursuing the Doctor of Clinical Science (CScD) in medical speech-language pathology. To find out more, or to recognize McNeil’s many contributions by making a gift to the fund, contact Greta Daniels, Development Office, SHRS, 4049 Forbes Tower, Pittsburgh, PA 15260, grd17@pitt.edu, 412-383-4084.



IN PURSUIT OF QUALITY.

“Not everything that can be counted counts.”

Dr. Mervat Abdelhak, chair and associate professor, Department of Health Information Management (HIM), likes to cite this quote, often attributed to physicist Albert Einstein. She says it is especially true in today’s era of big data.

“We collect data that measures outcomes, patient safety and satisfaction, and access and affordability,” she reports. “It’s all meant to improve quality of care.

“But it’s how the data is used that makes it meaningful,” she adds.

Shelby Osterrieder (BS HIM ’14) uses data to ensure patient safety. As a systems analyst for the UPMC Enterprise Data Quality Clinical Team, she routinely works with commingled electronic health records (EHRs). A commingled EHR results when two or more patients have their medical information combined, either by human or system error.

“A data error in health care could mean life or death for a patient,” explains Osterrieder. “For example, if the lab incorrectly reports a patient’s blood type, clinicians will base their treatment around that incorrect blood type. It’s an extreme example, but it is possible.”

To reduce the likelihood of mistakes, Osterrieder reads through patient medical records in their entirety to ensure the information is accurate. She also works on various process improvements to help data flow more easily between all EHRs at UPMC.

The industry as a whole is addressing ways to reduce errors through technology. In January, Healthcare IT News reported on a 2017 Medication Management and Safety Study conducted by HIMSS Analytics. More than 50 percent of the 153 physicians, nurses, and pharmacists surveyed reported that although medication technologies are utilized, a gap exists in medication management when patients are transitioned from one place to another and at the patient bedside.

They called for integrating medication management technologies with the EHR in order to reduce medication errors and fatalities.

Every day at St. Clair Hospital, Shannon Pisano (BS HIM ’14) pulls and integrates data from various sources including EHRs, coding systems, and patient claims data in order to drive better clinical outcomes and decision-making. As a senior data analyst for quality improvement, she brings multidisciplinary teams together to promote a culture of data transparency.

“Health care isn’t black and white,” notes Pisano. “Each person from the health care team sees the patient, the situation, or even the data from a slightly different perspective. Bringing all of those minds together helps build a strong picture of the situation and allows for a better analysis when deducing areas of opportunity and improvements in workflow.”

As a health system specialist at the Veterans Health Administration (VA), Ashley Gruszkowski (BS HIM ’11, MHA ’15) has access to over one billion veteran health data points, which are collected into reports and dashboards that track metrics such as patient no-shows, clinic wait times, supply and demand, and readmission rates.

“The vast variety of data allows us to focus on the areas in which improvement efforts would be most beneficial and impactful to increasing access, safety, timeliness, and quality of care for our patients,” says Gruszkowski.

“The most challenging part of working with data is that sometimes there is too much data and clinicians and administrators often do not know what to focus on,” she adds. “It is important for leadership to identify target metrics and align goals facility-wide to decrease waste, reduce cost, and improve quality.”

Abdelhak points to a new voluntary bundled payment model recently announced by the Centers for Medicare & Medicaid Services (CMS) that will use targeted data to incentivize quality health care.

“CMS is connecting quality, efficiency, and cost,” says Abdelhak. “Instead of being paid for services, providers will be paid for performance on 32 different clinical episodes that occur in both inpatient and outpatient settings.

“Data will validate performance of all providers, from physicians and nurses to labs and pharmacies,” she continues. “The entire team will have a stake in driving efficient, high-quality care.”

“Since this new model ties reimbursement to the entire episode of care, hospitals will need to review all aspects of the patient’s stay,” adds Pisano. “They must rely on data to determine clinical resource utilization patterns for supplies, labs, and imaging as well as to decrease physician variability—streamlining vendors and care pathways.”

According to Abdelhak, current trends validate the need to continue to teach students how to extract meaningful data. “By measuring what counts, and not just everything that can be counted, we can improve outcomes and decrease costs.” ■

“THE MOST CHALLENGING PART OF WORKING WITH DATA IS THAT **SOMETIMES THERE IS TOO MUCH DATA** AND CLINICIANS AND ADMINISTRATORS OFTEN DO NOT KNOW WHAT TO FOCUS ON.”



INTRODUCING THE PRIMARY SPINE PRACTITIONER:

THE NEWEST FRONT-LINE PROVIDER FOR LOW BACK PAIN.

Lower back pain. The words themselves cause most adults to cringe. Maybe it's an occasional problem that occurs after a weekend of intense gardening or household chores. Or perhaps it's a chronic condition that gradually erodes your quality of life.

According to the National Institute of Neurological Disorders and Stroke, about 80 percent of adults experience low back pain at some point in their lifetimes. It's the most common cause of job-related disability and a leading contributor to missed work days.

But who provides the most effective treatment for this widespread condition? The answer may soon be changing.

Dr. Mike Schneider, associate professor in the Department of Physical Therapy (PT) and a chiropractor by training, cites utilization data from the UPMC Health Plan and other insurance carriers. "About 25 percent of patients go to their primary care physician (PCP) first," says Schneider. "Another 35 percent make an appointment with a chiropractor. Less than five percent see a physical therapist as their first provider of choice. The rest visit the hospital's Emergency Department (ED) or a medical specialist such as a neurosurgeon, orthopedic surgeon, or physiatrist.

"Both chiropractors and physical therapists are experts in musculoskeletal medicine, whereas PCPs specialize in internal medicine and EDs specialize in trauma," continues Schneider. He further argues that while most PCPs typically prescribe pain medications and send patients for costly diagnostic testing, chiropractors and PTs immediately assess the cause of the pain and begin non-pharmacologic and non-surgical treatment.

"It only makes sense to position a practitioner who is the expert on musculoskeletal medicine, particularly low back pain, on the front lines of patient management," he adds.

Schneider and an experienced team of interdisciplinary practitioners from Pitt and the Care New England Spine Care Program recently launched the first certification program that provides additional education and expertise for both licensed chiropractors and physical therapists, allowing them to earn the title of Primary Spine Practitioner (PSP).

This one-year post-professional certification program is based on strong scientific research surrounding spine care. It requires 60 hours of in-class, evidence-based, best-practices

coursework completed over five weekends in addition to an equivalent amount of online education. Participants are required to pass rigorous written examinations as well as a final oral proficiency examination.

"We teach these courses at an advanced level in order to create the highest level of expertise among PSPs," says Schneider. "We dig deeper into the biological, psychological, and social factors of spine pain, and the importance of identifying pathological conditions such as cancer, infection, and internal disorders that would require immediate medical referral."

Schneider acknowledges that there has historically been some interprofessional tension between chiropractors and physical therapists, but points out that the PSP program embraces the similarities between the two professions.

"One of the aims of the PSP certificate program is to endorse those individuals who have the knowledge, understanding, and clinical skills that are required to effectively and efficiently manage spine-related disorders," adds PT Instructor Michael Timko. "These attributes are not specific to any one profession.

"Rather, it is about championing these well-informed, well-trained clinicians and then creating an environment in which they can practice at the highest level of their respective licenses," he continues.

"By creating this PSP certification, we are molding providers whose main focus is the alleviation of low back pain," says PT Assistant Professor Chris Bise, who has been involved with the program since its inception.

"We are convinced that the use of PSPs as first-contact providers will have very important benefits for both patients and payers," he continues. "Research suggests there will be a decrease in the progression of a patient to surgery, a decrease in the high cost of medical imaging, and a decrease in the use of opioids."

Dr. Donald R. Murphy, medical director of the Care New England Spine Care Program, Providence, R.I., also collaborated on the development of the PSP certification program. "We envision the primary spine practitioner helping to contribute to present and future changes in the health care delivery system, bringing about greater clinical effectiveness, cost-effectiveness, and efficiency to the world of spine care that previously did not exist," he says.

According to Schneider, clinicians around the world agree there is a need for certified PSPs. "We have some clinicians from Canada, England, and Dubai enrolled in our first cohort," he says. "As the U.S. health care system moves towards value-based care, I see PSPs playing an even greater role because they will be on the front lines, providing patients with timely, cost-effective spine care." ■



NEW PROSTHETICS RESEARCH: A STEP IN THE RIGHT DIRECTION.



More than two million Americans live with some sort of limb loss. While prosthetic devices help to restore function and improve quality of life, they can also create a new set of problems such as pressure sores and infection at the amputation site. These secondary complications reduce the likelihood that the amputee will wear the prosthetic device, further eroding the user's ability to work or socialize.

Goeran Fiedler, assistant professor in the Master of Science in Prosthetics and Orthotics (P&O) Program, envisions a way to make artificial limbs more comfortable to wear and less likely to cause secondary complications.

In an innovative, two-year study funded by the U.S. Department of Defense, Fiedler is researching the comparative effectiveness of a new type of liner that fits into the prosthetic socket of artificial limbs for individuals with below-knee amputations.

"The current standard of care requires the use of a flexible liner made of silicon or polyurethane gel that is worn directly between the skin and the rigid wall of the prosthetic socket," explains Fiedler. "The liner sticks to the skin and keeps the prosthesis from slipping off when the leg is lifted."

However, one of the primary side effects of the liner is excessive sweating of the residual limb. When the skin sweats, it loses contact with the liner. It then rubs against the material with every step. After a while, the rubbing causes pain and damage to the skin.

But a new generation of prosthetic liners are infused with phase-change material—a material that "melts" from a solid phase into a liquid phase at a temperature slightly above normal skin temperature. The melting has a cooling effect on the skin, and prevents sweating.

Donnie Krimm, who has worn an artificial limb for more than ten years, participated in Fiedler's pilot study that compared the two types of liners.

"A liner is like a heavy rubber sock that you pull over your residual limb," explains Krimm. "You can imagine how hot that can feel, especially in the summer months. But I was completely comfortable wearing the temperature-controlled liner, even when the temperature hit 90 degrees last August."

Fiedler's study is investigating whether the differences between liners can lead to any other tangible benefits for the user. For example, if users will be able to wear the artificial limb for longer periods during the day, or for more days in a row—or if they will experience any complications.

Study participants are being recruited in the Pittsburgh and Philadelphia areas. "It is important to have multiple sites for a study like this, mostly for logistical reasons," says Fiedler. "Recruiting 50 eligible participants from a small area is almost impossible, but having multiple sites increases the chances of having conditions that are most representative of reality."

"There may not be a big difference in demographics or anthropometrics between eastern and western Pennsylvania," he continues. "But there may well be differences in climate, as we have seen with this year's winter storms on the East Coast. And climate is obviously a factor in our study on

socket comfort."

The double-blind, randomized study follows participants for 12 months, during which time they wear one type of liner for six months, then switch to the other. This allows them to wear both the conventional and phase-change material liners during hot and cold seasons.

The study tracks the number of days the prosthesis is used, the number of steps taken, and other measures of activity. Participants also complete a standardized questionnaire to evaluate their experience.

Krimm reports he was able to wear the phase-change material liner all day, every day during the pilot study. "It felt very natural, and I had no problems with sweat," he notes.

According to Fiedler, the field of prosthetics does not often benefit from evidence-based research studies. The reason, he says, is simple: "All patients are different and one prosthesis does not look like the next. It's virtually impossible to conduct randomized trials on prosthetic devices—but it *is* feasible to study liners, and that's why we are excited about this study."

Xueyi Zhang, a PhD student in Biomedical Engineering at Capital Medical University in Beijing, China, applauds Fiedler's work. "Dr. Fiedler's research is significant in that he is investigating the scientific problems associated with the prosthetic liners, and seeking to find better solutions for amputees."

During her time as a visiting scholar at SHRS in 2015, Zhang observed how Fiedler encouraged students in the P&O program to keep research in mind for better prosthetic fitting when they went on to practice as prosthetists or orthotists.

She sees the new study as a way to elevate evidence-based research in the field of P&O. It also presents more opportunities for the two colleagues to work together again when Zhang returns to Pitt as a visiting scholar in mid-2018.

"I will not only obtain relevant knowledge of P&O, but also improve my research skills in the process of working with Dr. Fiedler on this study," says Zhang. "I'm looking forward to my reunion with SHRS faculty and students." ■



MEASURING THE EFFECTIVENESS OF CARE

Two facts weigh heavily on the mind of Associate Professor Natalie Leland, the newest addition to the faculty in the Department of Occupational Therapy (OT).

Fact number one: Dementia affects 50.4 percent of the residents of nursing homes.¹

Fact number two: The number of people with Alzheimer's disease or other dementias will continue to increase along with the growth of the older population.²

Providing appropriate care for these nursing home residents, and giving peace of mind to their family members, can be challenging on many levels.

"As dementia progresses, disruptions in the resident's daily routine, difficulty communicating personal needs, and environmental overstimulation or sensory deprivation often result in aggression and agitation for this fragile population," notes Leland. "If untreated, these changes in behavior result in negative side effects such as self-inflicted pain, limited food or liquid intake, accidental falls, and injuries to themselves or others."

Psychotropic medications are often prescribed. But as an occupational therapist and geriatric researcher, Leland believes there are non-pharmacologic solutions that will reduce undesirable behaviors and improve the quality of life for patients and their families.

Through a recent grant from the Patient-Centered Outcomes Research Institute (PCORI), she is comparing two models of treatment—one that is multidisciplinary and one that is transdisciplinary. "Both provide quality care," says Leland. "But which leads to the best outcomes for patients?"

The grant, which was awarded while Leland was with the University of Southern California (USC), will randomize the two treatment models at 80 long-term care facilities across the United States. Researchers from USC and Thomas Jefferson University will collaborate with Leland, her Pitt team, and their clinical community partner and co-principal investigator, Felicia Chew, of Genesis Rehab Services, during the five-year project.

Leland offers this scenario of how the treatment models will work: Mrs. Jones is a patient with dementia who recently refuses to eat and becomes agitated if a staff member, who is sitting to her left, tries to feed her.

In the **multidisciplinary model**, the charge nurse schedules consultations with the facility nutritionist, occupational therapist, and speech-language pathologist. Each evaluates Mrs. Jones and provides discipline-specific treatment and training as well as recommendations to be carried out by the certified nursing assistants, kitchen staff, charge nurse, and family. The training piece is essential as these frontline staff are responsible for carrying out all recommendations for Mrs. Jones on a daily basis.

In the **transdisciplinary model**, the charge nurse requests that the occupational therapist and speech therapist reassess Mrs. Jones to determine her dementia stage using the global deterioration scale (GDS). Through this process, they see that Mrs. Jones has progressed from Stage 5 to Stage 6.

Because of the facility-wide training on the GDS stages at the time that the transdisciplinary approach was implemented, all facility staff—from nursing to housekeeping and dining—have shared knowledge, educational resources, and common language for each GDS stage, and strategies for approaching Mrs. Jones.

How could OT help Mrs. Jones?

In both models, the facility occupational therapist would rely on her knowledge of dementia and understanding of the environment's role in self-feeding to improve Mrs. Jones' outcomes. For example, because a person's vision changes as the disease progresses, Mrs. Jones would have difficulty seeing mostly white food (like diced chicken, mashed potatoes, and cauliflower) on a white plate on a white tablecloth. She would also be startled when a staff person, sitting to the side of her, tries to feed her. OT might work with the kitchen staff to find a colored plate for Mrs. Jones, and instruct the staff person to sit directly in front of Mrs. Jones at a smaller café table where she would not become agitated.

Leland's team is also creating a family caregiver survey through the PCORI grant to quantify the care priorities and preferences of family members of individuals with dementia. PhD student Alexandra Harper (MOT '13) is leading the review of literature that will help to inform the development of that survey.



"We are trained to focus on the interplay of a variety of factors that influence a patient's current circumstance and engage in collaborative decision-making with myriad stakeholders in order to attain optimal outcomes," says Harper. "This PCORI grant is the perfect example of OT's ability to further the conversation and make an impact on the quality of life, quality of care, and best practices for individuals with dementia or Alzheimer's disease who live in nursing homes."

"The PCORI grant is a tremendous opportunity for the OT department at Pitt," adds Lauren Terhorst, associate professor and statistician. "We are very excited to be working on such important research that has the ability to impact clinical practice in a positive way." ■

¹ U.S. Department of Health and Human Services, "Long-Term Care Providers and Services Users in the United States: Data From the National Study of Long-Term Care Providers, 2013–2014," *Vital and Health Statistics Series 3*, Number 38, February 2016.

² Alzheimer's Association, 2013.



SHARING DATA TO IMPROVE PATIENT OUTCOMES, HEALTH CARE POLICY

“Just a few years ago, sharing health care data was perceived as a cardinal sin due to privacy regulations,” says Mark R. Schmeler, associate professor in the Department of Rehabilitation Science and Technology (RST). “Today, it is not only encouraged, it provides the scientific evidence we need to improve outcomes for large patient populations. And that informs consumers, clinicians, and public policy.”

Schmeler is speaking specifically about patient-reported data that is collected from a tool he developed in 2005. Known as the Functional Mobility Assessment (FMA), the tool measures the effectiveness of certain wheelchair and seating interventions for people with severe neuromuscular conditions. A ten-item questionnaire helps clinicians understand what else is happening to the patients because of the wheelchair they are using.

“In the beginning, we wanted to know if they were socializing more, falling less, were more independent, or had fewer bedsores or other secondary problems because of their intervention,” says Schmeler.

As the FMA tool gained universal acceptance, Schmeler recognized the need for pooling data.

In 2014, he established the FMA Uniform Data Set (FMA UDS), a national registry that is currently composed of data from 1,200 wheelchair users. “The registry could easily accommodate data from up to 10,000 individuals,” notes Schmeler.

The advantages of the registry are many.

“We are truly transparent,” says Schmeler, who serves as director of FMA UDS. “The data shows what devices work properly and what do not. It also tracks repairs and reveals what products might not be built as well as they should be.”

In the past, wheelchair users only followed up with clinicians if something was wrong with their device. “The FMA UDS allows us to be proactive,” explains Schmeler. “We have partnered with an independent data collection agency that makes follow-up calls to patients. They report findings to us for analysis—and to clinicians so problems can be remedied.”

Schmeler equates the process to preventive medicine.

Because the FMA UDS is a non-biased source of information, Schmeler sees the registry eventually becoming “the *Consumer Reports* of wheelchairs.”

“We want to put this data into a format that is a true resource for consumers,” states Schmeler. “That is our vision.”

PhD student Vince Schiappa (MS '16) works on the FMA UDS project as a data analyst and training coordinator. He notes that prior to FMA UDS, there was little uniform data available to seating and mobility clinicians.

“The mobility registry unifies all team members, including the end-users, clinicians, physicians, suppliers, and payers,” says Schiappa. “It also helps researchers identify the most prevalent co-morbidities related to seating and mobility to reduce mortality and morbidity for the end-user.”



Schiappa notes that the data can be analyzed multiple ways over a long period of time.

“I plan on implementing this data into many studies in the future to assist individuals for as long as I can be involved in research,” says Schiappa.

“Dr. Schmeler has been working on this project for over a decade,” he continues. “Many individuals have been involved in the past and will continue to be involved in the future, all for the same reason—to better the lives of individuals with disabilities. I am positive this project will lead to greater advances in the field of rehabilitation science and a heightened quality of life for individuals with disabilities.”

“People with chronic disabilities are the world’s most vulnerable population,” explains Schmeler. “They can also be the most expensive patients to care for. But large data sets such as those collected by FMA UDS will allow us to help them live healthier lives.”

“As we amass scientific evidence, we will be able to demonstrate to insurance companies and other stakeholders that we need better mobility devices to improve patient outcomes, keep people in the community, and save long-term health costs. And that will change public policy,” he continues.

RST Chair and Distinguished Professor Rory Cooper adds, “We need data to drive improving care for people with impairments using mobility devices. It is difficult to provide people the technology that will benefit them and that they need due to the paucity of large-scale data. The FMA UDS is an important step in the right direction.” ■



SERVING THE UNDERSERVED.

The National Rural Health Association reports that 19.3 percent of the U.S. population lives in rural areas, but there are only 13 physicians there to care for every 10,000 people. Compare that to 31 physicians for every 10,000 patients in other parts of the country.

“Physician Assistants (PAs) can play a significant role as a solution to the physician shortage in rural areas,” says David Beck, assistant professor, Physician Assistant Studies (PAS) program. “I personally have seen PAs take on more and more responsibilities within primary care clinics in the underserved areas of Bedford and Altoona where I work.”

“PAs have the skills, training, and medical knowledge to provide efficient, low-cost, and medically appropriate care for all,” explains PA Assistant Professor Jason Hare. “In rural locations, where physicians are scarce, a PA can offer greater, more consistent access to care and lower overall costs to both the patient and the system.”

PA Cara A. Wilson (MS ’11) operates a clinic in rural Harman, W.Va. Although the population of the town is less than 200 people, she currently sees nearly 1,000 patients from newborn to 100 years of age. Approximately 20 percent is below the federal poverty level.

Her only professional colleagues are two family practice physicians and a pediatrician who each visit the clinic for three hours once a month, and an on-site pharmacist.

“I have always been driven to rural medicine,” says Wilson. “There is an opportunity here to have a tremendous impact.”

But she admits that there are also significant challenges. Some of her patients cannot read or write, many do not have cars to get to medical appointments, and there’s no easy access to laboratories or imaging facilities for X-rays or MRIs.

Patient education is a high priority. “I spend a lot of time building rapport, explaining their diagnosis and how it may impact their lives,” continues Wilson. Sometimes, her care goes beyond the clinic.

Wilson recalls an elderly patient with COPD who used to play the fiddle at weekly dances in town. “I consulted with pulmonary every chance I had in order to give her the best care,” recalls Wilson. “When she needed IV antibiotics, I went to her house every morning to give her the medication, and to help care for her cats.”

The patient eventually passed away, but she is not forgotten. “She embodied every reason why I came here ... for people like her,” admits Wilson. “You can’t win every battle, but sometimes you can hold a patient’s hand through one to lighten their burden.”

Wilson recently became a clinical preceptor for students in SHRS’s PA program. “I think every student should have the opportunity to work in a rural location. You learn how to challenge yourself, how to think through problems, and how to build trust with patients who may not have had great experiences with the health care system,” she says.

Jessica Nguyen was the first such student. She immediately realized that the role of PAs in a rural area is extensive. “You see patients from simple to complex, stable to emergent, with chronic to acute diseases,” explains Nguyen. “These patients not only need someone who knows medical diagnoses and treatments, they desperately need someone who will listen to them and make them feel like a person and not just a disease.”

According to Emily Murphy, assistant professor and clinical coordinator, approximately 90 percent of PA students do at least one rotation in a rural or underserved area.

“When PA students gain this experience during their training, it affords them the opportunity to give back to these communities and provide an additional resource for these underserved areas,” says Murphy.

But rural communities are not the only areas that benefit from the service of PAs.

For the past 11 years, Hare has been practicing at the Western Psychiatric Institute and Clinic of UPMC (WPIC). “Patients in psychiatric facilities often do not have good health maintenance or regular primary care in the community. But we are able to provide this while they are receiving inpatient psych services, and we can set them up with primary care appointments after discharge,” explains Hare. “Working at WPIC also allows me to serve the homeless population, which is overrepresented in the psychiatric population, but underserved in primary care.”

Beck believes PAs have the potential to fill the gaps in other areas as well, including home health care and in schools. “While PAs practice in student health centers at many universities, including Pitt, it is possible that in the future, a Pre-K–12 school could have enough demand for a PA-C to staff the health office—and perhaps be certified to teach science courses or health and physical education,” says Beck.

Wilson is ready. She’s already planning to add in-school visits to her busy schedule. ■

PA Cara Wilson sutures a patient in her Harman, W.Va. clinic. Nurse Patti Mullenex assists. ▼





THE REAL WORLD

*Grenier measures a veteran for a wheelchair*

Kaila Grenier made a keen observation during her clinical internship at the VA Pittsburgh Healthcare System's H.J. Heinz Campus in O'Hara Township during the summer of 2017. Many clients had difficulty getting into the clinic for wheelchair evaluations and fittings.

"They either lived too far from the city or had complex health problems," notes Grenier. "I became interested in implementing a telehealth option for wheelchair assessments to reduce barriers and improve access to care."

Making this her thesis topic for her Master of Science in Rehabilitation Technology, Grenier is taking the next step toward what she hopes will become her life's work—improving the quality of life for wheelchair users as a rehabilitation engineer.

In September 2017, Grenier began to create policies and procedures that complied with VA requirements. She pre-screened veterans by phone, inquiring about their condition, their functional mobility, the accessibility of their home, and their interest in a home visit with an electronic connection to a VA clinician.

"We got to know each other over the phone," says Grenier. "The veterans were extremely interested and appreciative that someone was willing to go out of their way for them," she adds.

By November, Grenier was conducting wheelchair evaluations in clients' homes. Armed with an iPad that connects to a clinician at the VA, Grenier travels three days a week, visiting two clients a day, for approximately one hour each. She's accompanied by another student who assists with the technology.

"I tell the patients I am the hands of the clinician, who is on the other end of the line," she explains.

Grenier says the VA clinician always introduces himself and discloses if anyone else is in the room. He then observes Grenier as she works one-on-one with the veteran.

She performs functional mobility assessments to see how the veteran gets around and performs everyday activities. She also takes body measurements, carefully following the instructions of the VA telehealth provider, and allows the VA clinician to observe the condition of any existing equipment. If the VA clinician recommends a new or modified wheelchair, or a referral to another health care professional, Grenier explains the process to the veteran.

Chad Evans, a physical therapist and assistive technology professional, works in the Wheelchair, Seating and Power Mobility Clinic at the VA. He leads Grenier in her interactions with the veterans during their telerehab appointments.

"Kaila is a great problem-solver with a strong mechanical aptitude," says Evans.

VA physical therapist Joe Vasek (BS '96, MS '02) agrees. "Kaila works seamlessly with our debilitated patient population as well as the VA's specialized clinical staff," says Vasek. "She brings a unique perspective from her engineering training background that complements those of us on the VA staff who have more of a clinical training."

*▲ Grenier and Chad Evans discussing a patient visit.*

According to Grenier, sometimes more than one telehealth visit is required. If the VA clinicians recommend a new power wheelchair, she returns to the veteran's home after the chair is delivered to ensure a proper fit.

Grenier can also make simple wheelchair adjustments on the spot. She recalls visiting an 82-year-old veteran who liked to use a power wheelchair to get out into the community but was no longer able to do so because the joystick had detached from the armrest and his seat elevator was not working properly.

During the telehealth visit, the VA clinicians were able to inspect the power wheelchair and instruct Grenier on how to reattach the joystick to the chair's armrest and adjust a magnet that controlled the seat elevator. "Once the adjustments were made, function was restored and the patient was able to use his old chair," says Grenier. "There was no need for a costly replacement."

"Without a telehealth appointment, many of the veterans who require the greatest assistive technology and wheeled mobility would not have access to qualified assessment and treatment," notes Evans. "And Kaila's demeanor with the patients is just the icing on the cake. She truly cares about the veterans and providing them the best outcomes possible."

"Kaila has the character we look for in our students," adds Mark Schmeler, Grenier's academic advisor and RST associate professor. "We need young bright minds like hers to deploy new services in a positive way and show that they can work and make sense. Telehealth is where a lot of service is going. Students like Kaila are all about our future." ■

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