

SCIENTIA

A publication for College of Science and Health alumni



Students conduct an experiment in the revamped organic chemistry lab on the third floor of McGowan South. Learn more about recent facility upgrades and view photos on page 6.

Spring 2015

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Dean Koocher reveals six key questions guiding strategic planning at the college

As an almost 4-year-old, the College of Science and Health (CSH) has just begun to emerge from toddlerhood. We recognize the need to realign our goals continually with the university's Vision 2018 strategy through quality academics and innovations, and we do all this within the framework of our distinctive connection to Chicago, our Catholic Vincentian identity and the paramount value we place on fostering diversity and inclusion in our community of learning. In that context, we launched a strategic-planning activity for the college during the fall quarter.

Approximately 50 members of the faculty and staff, as well as our two student senators (see page 11), gathered for two three-hour meetings. During the first meeting, we addressed six key questions: What are our shared values (e.g., Vincentian and student centeredness)? What should be our guiding principles for new programs? What does institutional research tell us about what students want/need from CSH? What will success at CSH look like in five years for students, faculty and DePaul? What are our best opportunities? What are the greatest current threats to our success? During the second meeting, we used the data from the initial round to consider potential administrative and programmatic changes.

We also must consider other important societal factors as part of our planning, including the cost of private higher education, increasing student loan debt and the best ways to add value to a DePaul education while enhancing academic rigor. We know that science and mathematics educational achievement has declined in this country. At the same time, we face critical scientific and public policy challenges related to climate change, genomics, new drug development and toxins in the environment. We also know that although more people have insurance coverage, some live in health care "deserts" because of a shortage of primary care providers. We have a keen awareness of the growing population of elderly and the need for improved geriatric health care nationally.

CSH has accepted these challenges by designing a significant number of accelerated degree pathways in mathematics, the natural sciences and the health sciences. We have added new laboratories (see page 6), increased the pace of innovative teaching strategies with online learning and boosted our undergraduate research opportunities. We have also built out multiple programs to allow our undergraduates an opportunity to accelerate their progress into master's or doctoral degrees in science, mathematics and the health professions by as much as a year.



Dean Gerry Koocher, PhD

The strategic-planning sessions have underscored the need to increase the number of physician and nonphysician primary providers, and to add opportunities for more courses and research opportunities in behavioral health, biostatistics, genomics and geriatrics. We also plan to enhance existing alliances for those interested in engineering and management in laboratory and health care settings. We plan to enhance the honors program for undergraduate science majors, along with increasing options for an enhanced global perspective with specialized coursework and more study abroad options with a science or health focus. Watch for updates on our progress in future issues of Scientia.

Alumnus turns passion for sports and psychology into rewarding career

By Kelsey Schagemann

When Dr. Richard Lawton (CSH MA '89, PhD '91) enrolled at DePaul to obtain a graduate degree in psychology, he wasn't certain how his future career would unfold. "I knew I'd have options to work in industry, teach or maybe do research," he recalls. As it turns out, Lawton became an orthopedic surgeon with a focus in sports medicine, a career that incorporates his psychology background in surprisingly beneficial ways. "The operating room is a team setting where you need to draw on your leadership skills and collaborate," he explains. "I'm not sure I would have the same insight into those proficiencies if not for my training at DePaul."

Although Lawton was accepted to two other universities for graduate school, he found DePaul's faculty, location and offer of an academic scholarship too good to pass up. "I hit it off well with my professors, who were really great mentors throughout my time there," he says. "They helped me stay focused and progress quickly through my degree." Other highlights included playing on the university's club baseball team and interning at United Airlines, where Lawton helped the human resources department devise screening tests for pilots and flight attendants.

After a stint in consulting, Lawton pursued his medical degree at Emory University in Atlanta, followed by a residency in orthopedic surgery at the Mayo Clinic in Rochester, Minn., and a fellowship at the Steadman-Hawkins Clinic in Vail, Colo. During his fellowship, Lawton served as the assistant team physician for the Denver Broncos, and worked with the U.S. Ski Team and the Colorado Rockies. "Taking care of elite athletes can be very challenging," Lawton notes. "There's the risk of losing sight of what's best for the patients." While the pressures of competition can sometimes compel athletes to engage in risky behaviors, such as competing while injured, Lawton was able to successfully navigate those danger zones and complete the fellowship with his integrity intact.

He brings this same sense of purpose to the patients he treats at Durango Orthopedics, where he has worked since 2002. "When our patients have good outcomes, it makes me feel good," he says. "That means we've made the right diagnosis, we've communicated well, we did the surgery correctly if that's what was needed and we've performed excellent follow-up care."



Lawton's use of "we" in speaking about his responsibilities is no accident. "It's a collective success," he affirms. "We perform 450 to 500 surgeries a year—that requires a great deal of assistance from everyone in the office."

When he's not examining rotator cuff tears and ACL injuries or conducting joint replacement surgeries, Lawton keeps busy with other professional pursuits. He serves on the board of directors at Mercy Regional Medical Center in Durango and is the founder of the Rocky Mountain Sports Medical Foundation. "That's another way my industrial and organizational psychology background comes into play," he says. "Once you learn those skills in relationship development, they don't disappear." Lawton was inspired to create the foundation when he realized that many people in Durango were practicing some form of sports medicine, but no professional sharing was taking place.

In addition to bringing practitioners together to discuss best practices, the foundation also raised money to help hire athletic trainers for four local high schools. "Schools without athletic trainers are really at a disadvantage in terms of protecting their kids," Lawton explains. As someone who sees all manner of sports injuries—and who stays active skiing, biking and playing hockey—Lawton understands better than most the necessity of taking the health care of athletes seriously, regardless of their age or ability. "I just enjoy helping people," he says. "Plus, I like fixing things. That's what's so great about my career."

Dr. Richard Lawton's top four tips for recent graduates:

Have good manners and be appreciative.

Being pleasant to those around you and saying "please" and "thank you" are simple, dying arts, and therefore all the more appreciated. Realizing that life is short and appreciating the things that matter, like family, coworkers and friends, are among the keys to happiness.

Persistence counts.

Those who show up day after day with a good attitude and interest in working a little harder and longer than the next person will set themselves apart from those who say they want something but can't generate a worthy effort. In the long run, hard work with average talent outperforms undisciplined talent.

Talent helps.

You have talent that you should identify, feed and develop. While we cannot all be Michael Jordan, we have skills that are valuable in a team setting. Hard work alone often leads to success, whereas hard work and talent lead to excellence.

Pay attention to detail.

People who cut corners can get into trouble pretty quickly, while those who focus on the salient details of planning and execution—in work, sports and relationships—end up with better results.

ASSOCIATE PROFESSOR PAULA KAGAN ON NURSING, HEALTH CARE AND SOCIAL JUSTICE

Paula N. Kagan, PhD, RN, associate professor in DePaul's School of Nursing and interim chair of the Department of Women's and Gender Studies in the College of Liberal Arts and Social Sciences, focuses on social justice issues related to health care and nursing. In her teaching and research, Kagan uses the framework of critical social theories to take a hard look at questions of power, hierarchy, and the social and cultural constructs that perpetuate nursing and health care mythologies.

Could you elaborate on your research and teaching specialties?

I write and teach about power and change, with one of the big elements being that it is not enough—and may even be meaningless—to talk about multiculturalism and diversity unless we simultaneously talk about power, privilege and oppression. That is how we come to understand what difference means in the lives of people. It is important to recognize whose voices we listen to and value, and whose voices are silenced, hidden and marginalized. This idea is consistent with the Vincentian perspective and helps us to identify and care for the most vulnerable in society.

My research and teaching have expanded and been enhanced over the years by my increased understanding of power and utilization of frameworks of critical analysis, such as intersectionality, critical feminisms and postcolonial discourse. My students and I are able to come to a greater understanding about the gaps in health care and health inequities when we critically consider domains of peoples' conditions and experiences, such as gender, class, color and sexuality, as well as language, ability and nationality. These are often called "interlocking planes of oppression" because none of these experiences occur in a vacuum. It also helps for students to explore and articulate their own locations of privilege and marginalization.

What are some of the representations and mythologies that you work to dispel and rectify in your research and teaching?

Some of the cultural manifestations of the dominance of medicine, gender and class are apparent in film and on television, where it is typical to see doctors performing all sorts of heroics

while the nurses are relegated to sexy or subservient roles. Practicing nurses know that these heroic actions are frequently nurses' work. Portraying nurses as either sexually available, mean and dangerous, or angelic and in need of rescue is common and reflects societal attitudes toward women and women's work in general. We have a great deal of ambivalence about caring and those who care for others. We value the acts but are dismissive of those performing the care.

Nursing is about caring for the whole person, family and community in health and illness with consideration of all contexts and experiences. It is about teaching, fostering, nurturing, advocating for and intervening as needed. Nurses are interested in the mundane sufferings and joys of people's lives as well as the complex. Our cultural representations should—but too often do not—reflect that fact.

In your work on social justice issues, what has surprised you the most, and why?

I've been very surprised by how few critical theories and methods are integrated into coursework and across curricula, not to mention in our daily lives. We have blinders on. Everyone thinks things are okay until some crisis occurs, such as Hurricane Katrina—which was a narrative about race and class—or the Ebola outbreak, which is also about color and class. People are willing to discuss diversity and equality, but not as many people talk about white privilege, racism, sexism, heteronormative privilege and the privilege of wealth. We are not taught from an early age to make an assessment of our own identities and examine where each of us falls on intersecting lines of privilege and domination or oppression.

Critical analysis of social constructs is particularly important in the sciences

and health sciences in order to progress and limit the challenges and obstacles that keep individuals and communities from experiencing quality health. One of the primary things I have learned through incorporating critical perspectives is that the greatest risks to health are racism, homophobia, classism, sexism and ageism. These forms of oppression keep people from seeking and receiving appropriate care and intervention, while simultaneously supporting practices that provide limited treatment options or inappropriate diagnosis and intervention.

What steps can the general public and institutions such as DePaul take to avoid reinforcing stereotypes and health care mythologies?

Probably the greatest detriments to public consciousness-raising about nursing and health care are our language and values, the overuse of the terms "medical" and "medicine," and the underuse of nurses as experts in public media and institutional planning. Our respect for nursing needs to shift. More nursing voices are needed in public media; nurses have insider and intimate knowledge of human health and illness, and many are willing to share their expertise. We need to use words such as "provider," "health" and "health care" in class and in marketing materials. Medicine and nursing are separate disciplines, and we need to practice not privileging the former over the latter. In our brochures, our advising programs and our websites, nursing can't always be last or missing. Watching for symbols and rituals that are inappropriate or archaic for nursing should be everyone's job in health science. And don't forget to ask the experts themselves instead of making assumptions about nurses and their work—though you may get a few different answers!

New facilities excite and invigorate students and faculty

By Kelsey Schagemann

Students arriving on campus for winter quarter discovered new labs and work spaces in the Monsignor Andrew J. McGowan Science Building (McGowan South). More than 15,000 square feet were developed on the fourth floor of McGowan South, including offices, labs and shared research space. The build-out was prompted by the college's enrollment figures, which have increased since CSH's founding in 2011. "This represents the president and trustees' confident investment in the future of science and health education at DePaul," says Dean Gerry Koocher.

In addition to the McGowan South expansion, renovations also took place on the second and third floors of the building, as well as in Peter V. Byrne Hall, where two rooms were gutted and completely rebuilt to create two studio physics classrooms. "The design of the new and renovated spaces in both buildings was driven by the needs

of the academic programs, with faculty input," comments Associate Dean Richard Niedziela, a professor of physical chemistry. "We used new technologies for energy savings, incorporated flexible lab spaces and included student work areas to promote collaboration."

Feedback from students and faculty alike has been positive. Niedziela notes that these additions will allow the college to maintain appropriate teacher-student ratios, which not only benefits students, but also helps DePaul stand out from other universities. "These facilities show that DePaul is deeply invested in making the college a destination for students who are interested in a quality education in the natural and health sciences," Niedziela says. "By making space now, we will be able to increase the number of students we accept into our fine programs over the next five to 10 years."



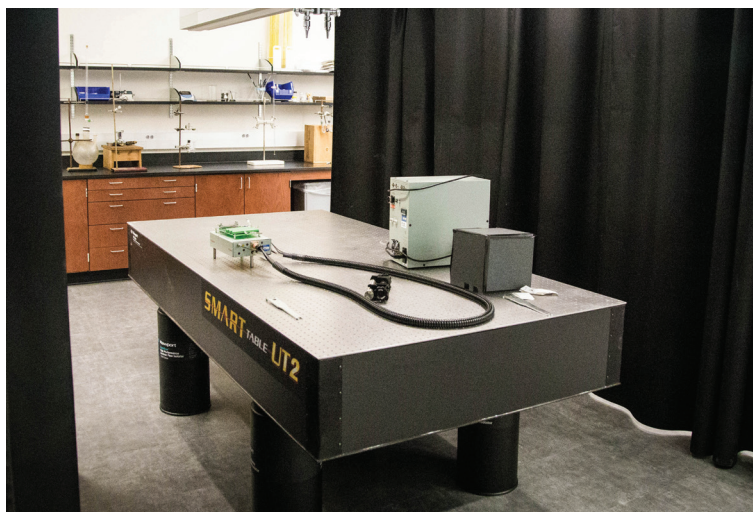
▲ A workroom separates the shared biology and chemistry research labs. Students can access this room while their experiments run in the adjacent facilities.



▲ A student in Chemistry 143 conducts an experiment in McGowan South 415, a general and analytical chemistry lab created as part of the facility build-out.



▲ The new health science research lab is ready for students and faculty.



▲ The new laser curtain in the physical chemistry lab is an important safety feature that prevents stray laser light from scattering throughout the room.



The organic chemistry lab on the third floor of McGowan South, formerly the physical chemistry lab, was redesigned during the build-out.



▲ Students work at lab stations in the new organic chemistry lab.



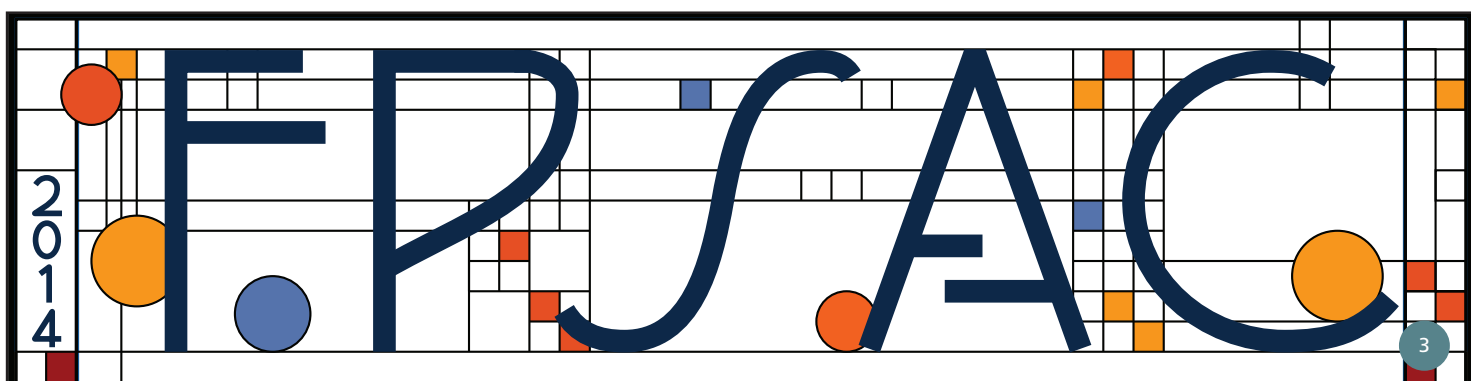
▲ McGowan South 405 is a multidisciplinary teaching lab. Chairs and tables fitted with wheels make it easy for professors to reconfigure the space based on their needs.



▲ Thanks to a better use of space in the new studio physics classrooms, more students will be able to enter the general physics track each year.

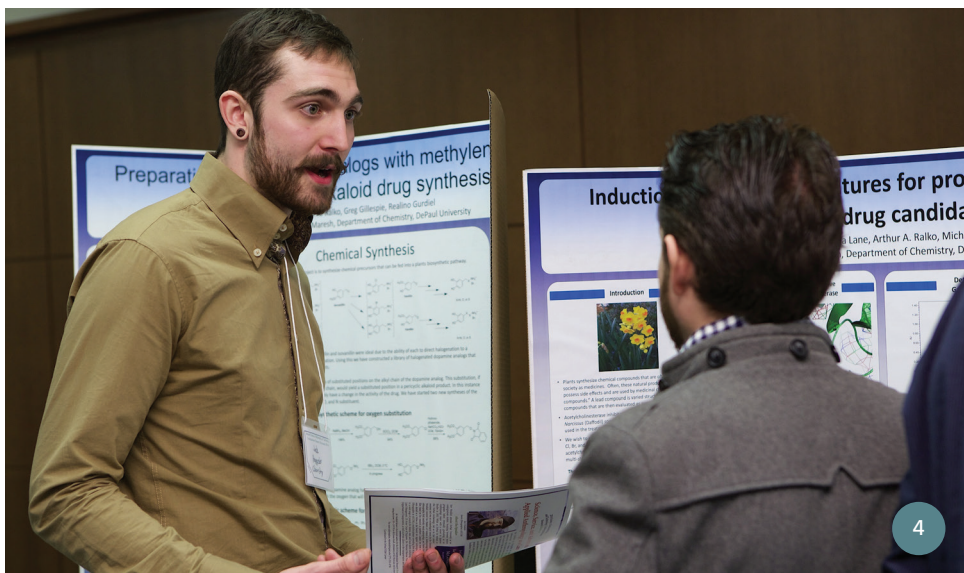


▲ Five large-screen monitors in McGowan South 410 will be used for video-based instruction and for in-lab demonstrations.



Lab notes

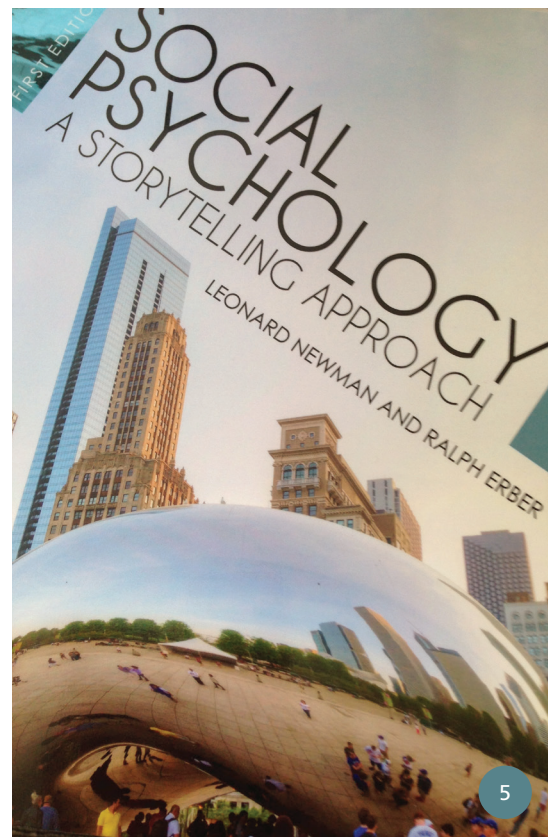
- 1 The first cohort of students in the RN to MS in nursing program started classes in January. This program offers a path for registered nurses to earn a BS degree and an MS degree in nursing from DePaul, as well as a graduate certificate from Rosalind Franklin University of Medicine and Science in health administration or health professions education. The interdisciplinary, streamlined program prepares students for a variety of career options. With all courses except clinical requirements offered online, the new program is ideal for working nurses. Photo credit: Jamie Moncrief/DePaul University.
- 2 In October, the National Chapter Committee of the Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) presented DePaul's SACNAS chapter with the 2014 Outstanding Community Service Award. This was the third consecutive year that DePaul's SACNAS chapter received a national award. In 2013, the chapter won the Undergraduate Chapter of the Year award; the prior year, the chapter was designated Most Improved Chapter. Twenty-two DePaul students attended the Annual SACNAS National Conference in Los Angeles, where Stephanie Pacheco (pictured) won an award for outstanding poster in the chemistry category. All students enjoyed a recognition reception, mentoring and networking events, scientific symposia and other professional development opportunities.
- 3 DePaul proudly hosted the 26th International Conference on Formal Power Series and Algebraic Combinatorics for approximately 225 attendees last year. Associate Professor Bridget Tenner chaired the organizing committee, which brought distinguished speakers from around the country, as well as France, Hungary, Israel, Scotland and Sweden. In addition to the invited lecturers, the five-day conference included poster sessions, software demonstrations and joint presentations. Topics covered all aspects of combinatorics and their relation to other parts of mathematics, physics, computer science and biology.



4



6



5

4 In November, CSH students presented their original research on a vast range of topics during the Natural Science, Mathematics and Technology Undergraduate Research Showcase. The 12th annual event highlighted the breadth and depth of research projects tackled by the college's talented students. With topics ranging from inflammatory diseases to animal behavior to student enrollment in STEM programs to pharmaceuticals, the showcase offered students an opportunity to share their academic passions with fellow classmates and faculty. Photo credit: DePaul University/Jeff Carrion.

5 "Social Psychology: A Storytelling Approach," co-authored by Professor Ralph Erber, associate vice president for academic space and scheduling, with Leonard Newman, associate professor at Syracuse University, was published last fall. The book uses a narrative approach to educate readers about various aspects of social psychology, including compliance, conformity, the self, attitude change, social perception and social inference. In the latter sections of the book, Erber and Newman address some of the darker aspects of social psychology, as they delve into stories about prejudice, discrimination, aggression, violence, genocide and terrorism.

6 Last fall, the Career Center sponsored a Profiles in Health event for students interested in exploring the health care professions. Roundtable discussions and networking opportunities gave students an inside look at possible career paths. A highlight of the event was the medical mash-up, where teams of guest speakers discussed how they might work together to meet the health care needs of patients, as well as how their specializations might lead them to approach the same health issue from different perspectives. Participating professionals included nurses, physicians, pharmacists, psychologists, medical scribes and physical therapists.

Check out these useful links!

DePaul Discoveries, the college's peer-reviewed undergraduate research journal, can be found at bit.ly/DePaulDiscoveries.



The CSH Research and Faculty Development Newsletter from fall 2014 can be found at bit.ly/Autumn2014RFD.



The Niche, a newsletter produced by the Department of Biological Sciences, can be found at bit.ly/TheNicheOnline.



Psychology students, faculty and staff provide mental health services for high-need populations

By Jamie Sokolik

Quality health care can make a huge difference for those who struggle with mental health issues. Unfortunately, such care is often out of reach for low-income populations. Stepping in to help fill this void is DePaul Family and Community Services (FCS), located on the Lincoln Park campus.

The psychologists, psychiatrist, social workers and graduate students who work at FCS go above and beyond to assist their clients. Each clinician is trained to consider the unique circumstances and challenges this population endures that often affect mental health and recovery. "I have seen clinicians take families to housing shelters so their kids can be re-enrolled in school and have some stability," says Orson Morrison, psychologist and director of FCS. "Staff members have gone to court with clients to advocate on their behalf. Clinicians have attempted to find clothes and shoes for kids who were displaced due to a crisis."

As a Medicaid part 132 provider, FCS offers a full range of services for children and families from underserved and under-resourced communities. "We embody the Vincentian values that center on service and working with the community to make a difference in the lives of those who really need it," Morrison says.

The majority of clients hear about the clinic from friends and family, but some are referred by primary health providers or find it while searching for help online. Services range from individual and group counseling to psychological testing and evaluations. Clinicians also apply more specialized therapies, such as parent-child interaction therapy, which emphasizes improving the parent-child bond as a way to treat behavioral disorders. Additionally, the clinicians work hand-in-hand with administrators at Chicago Public Schools to provide mental health support for students, including a variety of group, individual and family therapies; anger coping therapy; conflict resolution and more.

On campus, FCS serves as the primary training ground for 10 student clinicians each year. All clinical psychology doctoral students do their first year of clinical training at FCS, and the clinic also partners with the School of Nursing, as well as the department of social work in the College of Liberal Arts and Social Sciences. "We work collaboratively with other DePaul schools and colleges so that we can holistically meet the needs of clients and provide a multidisciplinary training milieu for our students," Morrison says. "When they graduate, they'll be working with people in a variety of health professions. To provide a professionally diverse learning environment is extremely important."

Alexandra Barnett, a fourth-year clinical child psychology doctoral student who works at FCS, has found this collaboration informative. "Having a team of mental health professionals who can pull from specific areas of expertise makes us all better equipped to provide comprehensive, high-quality services," she says. "It's been useful to be exposed to a wide range of perspectives." Barnett also believes that having worked with such a culturally aware group will serve her well in her future career. "I think DePaul is unique for acting on its values of cultural sensitivity," she says. "It's part of what initially piqued my interest in the university."

Morrison agrees that among the staff's top strengths is their ability to consider each client's circumstances and cultural background. "We understand that a client who doesn't have access to hot water or food or clean clothes isn't going to benefit from an hour of talk therapy alone. We attempt to intervene on multiple levels and understand how each specific situation affects mental health. We practice what we preach, and we're helping people every day."

To support DePaul Family and Community Services, visit bit.ly/FCSgiving.

“IF YOU WANT
TO GO FAR,
GO TOGETHER.”



As one of two CSH student senators, Jaclyn Shea spends a lot of time making her beloved college even better. The health sciences major, who has a concentration in public health and a minor in community service studies, takes her leadership role very seriously. “Since the College of Science and Health is relatively new, we want to ensure the student perspective is considered as our college continues to grow,” she says.

In addition to representing the college at Student Government Association meetings, Shea and her co-senator, Lara Hilapad, hold weekly office hours where students can share their ideas or ask questions. To give students an even greater forum for conversation and a chance to speak informally with Dean Koocher, Shea and Hilapad hosted a successful town hall during the fall quarter. Another initiative entailed reviewing access to experiential learning opportunities. “Students in CSH are looking for volunteer, internship, job and research

opportunities that will set them apart,” Shea notes. “We surveyed CSH students to better understand what resources they’re using and what additional support they’d like to see.”

When she’s not encouraging dialogue and improving processes as a student senator, Shea stays busy juggling coursework, a job and outside activities. She works as a research assistant in the health sciences department, tutors a Sudanese teenage refugee and recently cofounded a female empowerment group. The group was inspired by an African proverb that could also be Shea’s personal motto: If you want to go fast, go alone. If you want to go far, go together.

Ever since arriving on campus four years ago, Shea has thrived in positions that require teamwork. Given her past roles as a Chicago Quarter mentor, resident advisor and co-coordinator of the Peer Health Exchange, it’s no surprise that Shea took on the challenge of being a student senator. “I’ve seen the Student Government Association make



DePaul a better place for students year after year,” she explains. “I knew I wanted to be a part of such an impactful legacy.”

Interested in supporting creative and dedicated students like Jaclyn Shea? Consider making a gift to one of the funds below.

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We welcome your story ideas, questions and comments. Please contact Kelsey Schagemann at (312) 362-6368 or kschagem@depaul.edu.

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CSH Alumni and Friends Reception

Thursday, Feb. 5