

A SUMMER OF SELF-DISCOVERY

EXPERIENCE ACROSS DISCIPLINES IS ALL IN A SUMMER'S WORK FOR SOME RISING SECOND-YEAR STUDENTS

THE SUMMER BETWEEN the first and second year is the only extended break in the four-year Penn Dental Medicine DMD program, providing an opportunity for students to relax with family and friends, travel, or earn extra cash before the next three busy and challenging years. But for students who choose to use the time for an extracurricular learning experience, Penn Dental Medicine offers a variety of dynamic programs — many utilizing the School's strong ties to resources across the University of Pennsylvania — that take summer break to a new level.

Here, we highlight a few of those programs and some of the participating students from this year. While some of these experiences offer stipends and/or academic credit, most participants agree that the real draw is the chance to learn something new and meaningful — about the world, about others, and about themselves.

BRIDGING THE GAPS: Serving the most vulnerable in our communities

Each summer, the Bridging the Gaps (BTG) Community Health Internship Program brings together students from all health and social services disciplines across Penn and other Philadelphia universities to serve underrepresented city residents. It is an enlightening glimpse of the challenges many Philadelphians endure in all aspects of their lives, including dental care.

“Bridging the Gaps is an invaluable opportunity to get out of ‘the Penn bubble’ and see the community from the perspective of those who are living in it every day,” says Dr. Joan Gluch, Associate Dean of Academic Policies and Chief of the Division of Community Oral Health, who has coordinated Penn Dental Medicine's participation in BTG for 26 years.

About 30 dental students apply for roughly half as many seven-week internships at service organizations around the city, Dr. Gluch says. This summer, interns were placed at camps for city youth, an Early Head Start program for young mothers, and a senior citizens day group at Lutheran Social Services, among others.



MARCUS DASSAH (D'21)
BRIDGING THE GAPS



JOANNA FERGUSON (D'21)
THE LEONARD DAVIS INSTITUTE OF HEALTH ECONOMICS

Learning to listen: Marcus Dassah (D'21) grew up doing community service work in his native Ghana, and was eager to serve struggling residents of his new home city. Along with two medical students, his BTG internship was at Covenant House, a residential center for homeless youth ages 18 to 21 in Germantown. There, he helped residents create resumes, practice interview skills, find professional clothing, and apply for jobs. He also worked with a dental hygienist to provide residents with oral screenings and education, and to help them find dental care.

“The mission of Covenant House is to help homeless youth become happy, healthy, independent adults,” he says. “I am so grateful that there is a place that opens its doors to young people who are struggling.”

Marcus, who has two young sons of his own, felt his summer experience has made him more compassionate and mindful of his choice of words, qualities he plans to put to use in clinic this year and beyond. “I learned to listen without making assumptions or judgements,” he says. “You never know where someone is coming from and what they have been through.”

Blending practice with theory: BTG summer interns work four days a week as part of a team that may include medical, nursing, veterinary, and/or social work students from Penn as well as from Temple, Drexel, and Jefferson, all members of the BTG Consortium. On Wednesdays, interns from around the city meet for classes on public health, with topics ranging from gun violence and racial stereotyping to smoking cessation and cultural humility, taught by professors from BTG universities. In September, interns gather again at the BTG Symposium to present posters on their internships.

This powerful blend of practice and theory is a solid building block for careers, says Dr. Gluch: “Bridging the Gaps allows students to gain a sense of themselves as professionals and as leaders with the knowledge and ability to shape community health.”

THE LEONARD DAVIS INSTITUTE OF HEALTH ECONOMICS: Using research to change health care

One of the benefits of a Penn Dental Medicine education is the School's ties to Penn's other schools, like Wharton. The Leonard Davis Institute (LDI) of Health Economics, in conjunction with the Wharton's Health Care Management Department, offers summer research fellowships to selected dental students. With more than 200 research fellows, LDI is considered one of the world's leading university-based health policy research programs.

“It's a wonderful interprofessional opportunity for our students,” says Susan Schwartz, Assistant Dean for Student Life.

A perfect fit: The 10-week internship in health services research, a multidisciplinary field which examines the political, social, economic, and environmental issues that impact health care, sounded just right to Joanna Ferguson (D'21), who was considering a dual degree in public health.

“I wanted to use the summer to experience something at Penn that I wouldn't be able to do otherwise, and meet new people outside of the dental school,” she says.

SELF DISCOVERY

Along with fellow interns Franco DeMayo (D'21) and Tim Wang (D'21), Joanna kicked off the experience with a trip to Seattle for the Academy Health Annual Research Meeting, which opened her eyes to the range and status of health care services research nationwide.

Inspiring mentors: Back at Penn, Joanna was paired with Dr. Kevin Jenkins, a postdoctoral fellow in the School of Social Policy and Practice, and Dr. Brenda Curtis, Assistant Professor of Psychology in Psychiatry at the Hospital of the University of Pennsylvania. Working with Dr. Jenkins, whose research often examines the roles of race and ethnicity in health care, Joanna spearheaded a survey of medical and osteopathic schools across the country to determine if they had an Office of Diversity, spoke with patients with kidney disease to determine how race and racism affected their treatment, and assisted on a survey of medical and nursing schools to determine the presence and contributions of black faculty members.

With Dr. Curtis, an expert on opioid addiction, Joanna analyzed an online pro-drug forum, following a conversation thread and examining hundreds of user comments to obtain information on when participants started using drugs and what substances they were using. She then performed a qualitative analysis on the findings.

Both experiences taught Joanna, who plans to pursue public health research and continue investigating disparities in health care, the importance of data and statistics in bringing about change. "I learned how to organize and utilize information in a way that can really help people," she says.

PENN DENTAL MEDICINE SUMMER RESEARCH PROGRAM: Working side-by-side with faculty experts

For nearly 40 years, Penn Dental Medicine's summer research program has provided students with the opportunity to hone their basic laboratory and clinical research skills while working side-by-side with faculty from Penn Dental Medicine and across the University.

"Ours is such a well-established program that it's become an important recruiting tool for dental students," says Dr. Joseph DiRienzo, Assistant Dean for Student Research, who has run the program since 1993. "Most of our students have had research experience in college and are eager to continue their scientific endeavors."

A competitive application process: At the beginning of each school year, students check the program's web page for a list of faculty who are seeking student research assistance. (All Penn Dental Medicine faculty are eligible to participate, as are faculty members from other Schools at Penn.) Students meet with faculty members to discuss possible projects, and create an application outlining the proposed project and methods. About 15 applications are chosen by the School's Research Committee.

"The committee looks for high-quality projects that will provide a meaningful student research experience," Dr. DiRienzo explains.

One of the applications chosen last summer came from Stefanie Kligman (D'21), who proposed a project with Dr. Hyun-Duc Nah-Cederquist, Clinical Associate Professor of Orthodontics at Penn Dental Medicine and a craniofacial orthodontist at the Children's Hospital of Philadelphia, who specializes in treating cleft lip and palate.

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— STEFANIE KLIGMAN (D'21)
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STEFANIE KLIGMAN (D'21)
PENN DENTAL MEDICINE SUMMER RESEARCH PROGRAM

"After taking a course with Dr. Nah, I was really excited by the incredible work she was doing," Stefanie says. "I saw that she was changing people's lives for the better."

Building valuable lab skills: Stefanie was one of four Penn Dental Medicine students (along with Peter Rekawek (D'21), Jamie Silverberg (D'21), and Derek Swanson (D'21)) chosen to work on different projects with the same mouse model in Dr. Nah's lab. Stefanie's project involved manipulating two genes that control the development of cleft palate in mouse embryos. She examined three stages in the development of the embryos in an effort to pinpoint exactly when a cleft palate might develop, and when it might be corrected.

During the eight-week program, Stefanie learned to use a state-of-the-art scanning electron microscope to view the embryos. Her work also included dissecting, processing, and sectioning the embryos at just the right angle; making slides; staining the slides with different antibodies; and evaluating the resulting images. She values the technical skills she developed in the lab, and is gratified that results drawn from her work could eventually be extrapolated to humans.

“I learned so much in such a short time,” she says. “It’s inspiring to be at a school where there is research being done that will ultimately help us treat patients.”

SPIRITUALITY AND HEALTH SUMMER INTERNSHIP PROGRAM: Engaging with patients on religious beliefs

In many parts of the country, including Philadelphia, a dentist can expect to treat patients of every religion. Yet few dentists are trained in understanding and respecting a patient’s spiritual beliefs — and few are encouraged to examine their own.

A patient-centered internship offered through Penn’s Perelman School of Medicine, and open to dental students for the first time this summer, aims to change these norms.

“Issues of religion and spirituality will inevitably come up in conversations and interactions with patients,” says Dr. Horace DeLisser, Associate Professor of Medicine at Perelman and director of the program. “Practitioners who are able to effectively and respectfully engage with patients on these issues will make connections and foster stronger relationships.”

With this in mind, the six-week Spirituality and Health Internship weaves together a variety of intensive learning experiences: hospital visits to patients and families, field trips to religious communities across the city, interviews with faculty members, and a shadowing experience with a chaplain. Training sessions in relational communication and mindfulness meditation also help students understand themselves and others.



NEEL SHAH (D'21)
SPIRITUALITY AND HEALTH SUMMER INTERNSHIP PROGRAM

Building trust: Neel Shah (D’21), a New York City native, completed the internship this summer with classmates Corey Smigiel (D’21) and Semele Liu (D’21). The interns spent most mornings in education and discussion sessions, and most afternoons at local hospitals, visiting patients. Most patients were open to talking, Neel says, and common conversational themes included patients’ worries about their families, their health, and their futures. While some people chose not to talk about spirituality, others did.

“I learned to be a good listener — not to take over the conversation, but to let the patient talk — and not to make assumptions about what they knew, but to explain everything thoroughly,” he says. “When people felt like they were being heard, they were more willing to trust me.”

The interns also visited a synagogue, a mosque, a Sikh temple, and a faith-based Christian community program. “Each trip was a whole different world,” Neel says. However, perhaps most meaningful to him was shadowing a chaplain at Penn Presbyterian Hospital’s Trauma Center and ICU.

“He was dealing with people at the most intense and debilitating times of their lives, and he was able to bring them a sense of calm,” he recalls. “He could defuse difficult situations and deliver unwelcome news with ease and elegance.”

Breaking new ground: Neel feels his internship will help him not just in his remaining years of dental school, but throughout his career. He hopes the lessons it teaches will become a standard part of the dental school curriculum.

“It’s breaking new ground in how we talk about spirituality in health care,” he says. “It made me proud to be a member of the Penn health community.”

PENN GLOBAL INTERNSHIP PROGRAM: Improving care around the world

The Penn Global Internship sends students around the world to make a difference in the lives — and health — of others. Penn Dental Medicine students Do Kwon (D’21) and Mateo Nelson (D’21) did just that, spending eight weeks in the tiny West African nation of The Gambia to evaluate dental needs.

Do, who grew up in Mexico, and Mateo, who is from Hawaii, both came to Penn Dental Medicine after working in creative fields and volunteering in underserved communities. Both were drawn to the internship by their interest in public health.

“I wanted an experience that would let me compare dentistry in the United States to dentistry in a developing country,” says Do, who hopes eventually to return to Mexico to practice.



**DO KWON (D'21) AND MATEO NELSON (D'21)
PENN GLOBAL INTERNSHIP PROGRAM**

For Mateo, the program was one of many valuable Penn resources he was eager to explore: “I chose Penn Dental in part because its campus is so well integrated with the University.”

Making an impact: Do and Mateo were assigned to Bwiam General Hospital, about two hours outside of the Gambian capital of Banjul. They arrived to find a single staff dentist with limited supplies and support staff, making extraction the only real treatment option. The dentist explained that a lack of oral health education, combined with a sugary diet, often results in early onset gross caries. If infected teeth are not pulled in time, tooth decay can progress to life-threatening conditions like cellulitis and Ludwig’s Angina.

“Dental care there has reached a critical state,” says Do. “Through no fault of their own, people don’t have the resources or the education to care for their teeth.”

After meeting with local village, government, and university leaders, Do and Mateo concluded that they could make the biggest impact on dental health by establishing an ongoing program of oral health education in local schools. They visited a primary school and a high school, providing instruction and supplies. Soon, they were invited to appear on local radio and television to spread their

message further, and even wrote and recorded a catchy song for kids to listen to while brushing their teeth.

“The Gambian people were so gracious and welcoming, and so willing to work with us,” says Mateo.

“It’s the kind of place where you can’t help falling in love with the people,” adds Do.

Building momentum: Back at Penn, Do and Mateo are building interest among fellow students, and hope to form a new student organization to support efforts in The Gambia. They have proposed to the School administration an expanded internship program as well as a possible collaboration with the University of Gambia, which is launching its own dental school next year.

“We saw so much potential there,” says Mateo. “Now, our hope and challenge is to keep the momentum going.” ■

— By Juliana Delany

A BREAK FROM THE ORDINARY

These formal programs are just some of the ways that the rising second-year Penn Dental Medicine students made the most of their summer. Others shadowed dentists or worked in clinics in their home towns or near campus, or pursued other career-enhancing experiences. Here a few other members of the DMD Class of '21 share activities from their summer break.

Cole Bender (D'21) shadowed and interned at a multi-specialty practice in downtown San Diego. “It was an amazing learning experience!” he says. “It was incredibly fascinating to observe the dynamic between six different specialists rotating through the Scripps Center for Dental Care as they treat complex cases ranging from everyday composite fillings to sinus lifts, crown lengthening, and more.”

Melissa Nahcivan (D'21) completed research with Dr. Fusun Ozer in Penn Dental Medicine’s Department of Preventive and Restorative Sciences on the efficacy of different surface treatments in composite-composite bond strengths, and is preparing a paper on the project for publication. “It was a fun project and I’m glad I had a chance to work on it,” she says.

Terigray Nnanabu (D'21) and **Herta Granado (D'21)** served as the coordinators for Penn Dental Medicine’s Summer Mentorship Program for high school students, planning the daily program of activities for the participants and serving as instructors for the hands-on components. “The program brought 10 high school students to campus to experience and explore the world of dentistry at Penn,” says Terigray.