



## Student Change Agents Find Support

*Three CCLCM students launch the Health Systems Research Group, aimed at influencing the future of healthcare delivery*

Healthcare leaders, economists and politicians are just a few of the groups that are doggedly fixed on solving some of today's most burning healthcare issues: how to make it affordable, efficient and safe, and how to improve its delivery. Now add CCLCM medical students to the list of experts, starting with Alex Chaitoff ('19), Joe Featherall ('19) and Bob Sun ('19).

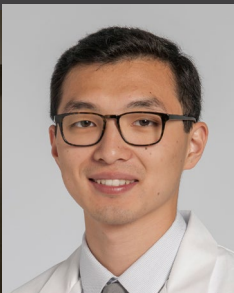
Early in their medical school career, the three students expressed an interest in conducting health systems research. Alex performed similar research in both undergraduate and graduate school, and Joe's interest dates back to his engineering training, where he was taught to look at something and think about how it could be done better.



Alex Chaitoff



Joe Featherall



Bob Sun



After a year of preparation, and with help from their physician advisor, Michael Rothberg, MD, Vice Chair of Research for the Medicine Institute, the three launched the Health Systems Research Group in the beginning of 2015.

“The group is a great way for students to learn about health services research, the healthcare system and the Clinic,” says Dr. Rothberg, who runs value-based care research for Cleveland Clinic. “There are plenty of opportunities for CCLCM students to participate in research at whatever level they like, from doing literature reviews and chart reviews up through designing and implementing a research protocol. We’ve had three students spend their research years with us, and each has had a successful publication — and matched at their first-choice program!”

The mission of the group is to raise awareness of how health services research impacts healthcare delivery and to connect those interested in conducting research with experts. To connect people, the group holds events where investigators can present their research work and invite students to support their research projects. “We want to connect students with motivated physician mentors, enable them to accelerate their careers and strengthen the field of health systems research,” says Joe.

For example, the group, in collaboration with the CCLCM Surgery Interest Group, presented the Surgery Outcomes Research Showcase in November, where students could discover how to get involved in surgical outcomes research with established investigators. The panel of speakers included Eugene Blackstone, MD, Heart & Vascular Institute; Paul Bryson, MD, Head & Neck Institute; Eric Klein, MD, Glickman Urological & Kidney Institute; Sean Nagel, MD, Neurological Institute; and Kurt Spindler, MD, Orthopaedic & Rheumatologic Institute. They also unveiled the [Health Systems Research Group website](#).

“Some students may not want to be directly involved in research and that’s OK. They can attend the events, learn more and discuss ideas,” says Alex.

The group also helps guide students along the way. For example, a student may be unfamiliar with all the data resources available at Cleveland Clinic. By connecting a first-year student with a more senior student, the first-year can gather a lot of information about how to efficiently and effectively conduct a project.

“Cleveland Clinic is really a place where this type of work can flourish. There are tremendous resources for students who want to work on these types of problems,” says Joe, who cites the E-Research Department for Epic data, the Knowledge Program for outcomes, and Enterprise Business Intelligence for performance metrics, scorecards and cost information. “As medical students, we can access this information and use it to drive forward the field. Not many students are aware of this.”

Group members are eager to publish papers, present at meetings and be among those who are influencing how care is delivered at Cleveland Clinic. Alex is currently

working on a project that suggests that physician empathy may be related to patient satisfaction scores. He presented his findings at the Society for General Internal Medicine’s regional meeting in Cleveland in September 2016.

During the first year of the group’s existence, the leadership team consisted of a president (Joe Featherall), and vice presidents for operations (Alex Chaitoff), events (Sonia Havele (CWRU ‘19)) and communications (Alex Cantrell (‘20)). To create a leadership pipeline, the group just added director-level positions for media (Jaret Karnuta (‘21)), strategy (Scott Anjewierden (‘21)), and events (Aaron Dunn (‘21)). By the time Alex, Joe and Bob graduate, they hope the group will be a well-oiled machine. “It took us a year to get this group started. New students can start on day one,” says Alex.

In an era where research on quality, outcomes and cost-effectiveness is becoming more relevant, the Health Systems Research Group offers students a unique opportunity to harvest data and better understand how the modern healthcare system functions.

“For anyone who is interested in influencing the future of healthcare delivery, we are the place to start,” says Dr. Rothberg.

## Where the Rubber Meets the Road

***Using health systems research, the team tackles surgical site infections and improves outcomes for patients***

Despite popular belief, cost and quality in healthcare can have an inverse relationship. For most other things, higher quality costs more. If you want, say, a more reliable car or a faster computer, you’ll have to shell out more money. But in healthcare, low quality tends to cost much more. Take, for example, medical mistakes. Mistakes are costly, in terms of patient suffering, limited healthcare resources and dollars.

This is particularly true in the case of post-surgical infection. Patients that experience post-surgical infection require tremendous follow-up care, multiple antibiotics, longer rehab and more physical therapy. This health setback taxes patients physically and mentally.

One scenario that increases the risk of post-surgical infection is a surgery that takes a long time. An efficient, skillful surgery with proper preparations in infection prophylaxis reduces risk of post-surgical infection and, thus, costs less.

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Shortly after Joe Featherall ('19) arrived in Cleveland, he started working with Ajit Krishnaney, MD, a neurosurgeon in the Cleveland Clinic Spine Center. As the Quality Director for the Spine Center, Dr. Krishnaney is focused on improving quality and reducing the cost of complex neurosurgical procedures. Dr. Krishnaney introduced Joe to an infection prevention protocol research project.

“We looked at two years of spine surgeries prior to the implementation of the infection prevention protocol and compared them with two years of spine surgeries after its implementation. After regressing for patient demographics and multiple comorbidities, we determined that the infection prevention protocol not only cut the surgical site infection rate in half, but it also saved over \$800 in care for each patient,” says Joe.

This study, which was recently published in *JAMA Surgery*, is just one example of the many areas where improving initial quality, that is, making small changes upfront to do things right the first time, can significantly reduce cost and make a tangible impact on patients' lives, explains Joe.

Read “Implementation of an infection prevention bundle to reduce surgical site infections and cost following spine surgery.”

As part of the team's analysis, they looked at the number of spine surgery infections across the United States and estimated the cost savings nationally if bundled infection prevention methods were used. Doing so has the potential to save the U.S. healthcare system nearly \$1 billion per year.

“The best part about this type of research is its practicality,” says Joe. “We can clearly say that we have improved outcomes for Cleveland Clinic patients. We have demonstrated a successful, cost-effective method for preventing devastating surgical site infections that can be easily implemented using simple techniques.

“More and more, there is national interest in research that looks at how interventions work in a real healthcare system rather than in an idealized experimental design,” says Joe. “This is where the rubber really meets the road.”

## NEWS

### Save the Date: Simulation Faculty Development Program

2017 sessions:

- Feb. 22 and 23 (Wed/Thu)
- May 24 and 25 (Wed/Thu)
- July 13 and 14 (Thu/Fri)
- Sept. 14 and 15 (Thu/Fri)
- Nov. 15 and 16 (Wed/Thu)

Registration is limited and on a first-come, first-served basis.

Please contact Michelle Feliciano at [felicim@ccf.org](mailto:felicim@ccf.org) to register for one of the sessions.

Faculty Development program	
Online self-study	2-day onsite Workshop
<i>Prerequisite asynchronous learning to begin 3 weeks before onsite workshop</i>	<i>Stanley Shalom Zielony Building</i>
<p><b>The online content includes:</b></p> <ul style="list-style-type: none"> <li>• Baseline knowledge pre-test</li> <li>• Confidence and experience self-reporting survey</li> <li>• Introduction to simulation</li> <li>• Establishing goals &amp; objectives</li> <li>• Assessment in simulation</li> <li>• Basics of Debriefing</li> <li>• Approximately 4-6 hours of content</li> <li>• Includes videos, discussion boards, and reading assignments</li> </ul>	<p><b>The onsite content includes:</b></p> <ul style="list-style-type: none"> <li>• Adult &amp; experiential learning theories</li> <li>• Reflective feedback</li> <li>• Fundamentals of debriefing</li> <li>• Artful questioning</li> <li>• Facilitation within simulation</li> <li>• Simple and team-based case building</li> <li>• Post-test (to be completed via mCOMET within 72 hours of completing the course)</li> <li>• Includes multiple hands-on, highly interactive modalities</li> </ul>

*This activity has been approved for AMA PRA Category 1 Credits™*



## How Technology Will Shape the Way Anatomy is Taught

Case Western Reserve University professor Mark Griswold, PhD, was recently interviewed for ZDNet for an article called “HoloLens, MD: Why this medical school will teach doctors anatomy with Microsoft’s augmented reality, not cadavers.”

“The HoloLens is a very, very exciting piece of technology but it’s very, very early in its development and there are a lot of fundamental things that don’t exist for it. Over the next year to year-and-a-half we’re going to be mostly focused on testing that content with the students and making sure they can learn it in the same way they could on a conventional cadaver ....,” said Dr. Griswold, who has been at the forefront of using this mixed-reality device in medical education.

[Read the entire article.](#)

## Cleveland School of Science & Medicine Students visit CCLCM

Students from the Cleveland School of Science & Medicine/ John Hay Campus visited the Lerner College of Medicine to discover the myriad opportunities in healthcare available to them as they consider future careers.

Not only did the high school students have a chance to learn about career opportunities in healthcare, but they also donned hard hats and toured the new Health Education Campus construction site, stopping for a few exciting minutes to sign the I-beam!

[Watch the video.](#)

## Medical School Survival Tip

According to Daniel R. Paull, MD, author of *So You Got Into Medical School... Now What? A Guide to Preparing for the Next Four Years*, “The best way to avoid study anxiety is to avoid procrastination by creating and following a reasonable study schedule.”

Finding time to complete all of the tasks that lay before you can be tough. Use a planner, and set aside specific times to study to keep that exam or project from creeping up on you. This way, you will avoid the panic of last-minute preparations.

### Patient Safety & Quality Tip:

#### Ensure Your Discharge Summaries are Useful

Amanda T. Lathia, MD, MPhil  
Coordinator, Geriatrics 1 and 2;  
Discipline Leader, Aging



As a geriatrician, I have the privilege of taking care of patients in every setting: when they leave the hospital and go to rehab, or leave rehab and go to a nursing home or back home. I share my experience with transitions of care with the medical students, teaching them how to make transitions of care better along with how to communicate with patients and other doctors, especially those who are outside of the Cleveland Clinic health system.

One tip is to always send the discharge summary to the primary care doctor and a letter to outside doctors. Another tip is to create a useful discharge summary. Don't simply copy and paste the problem list because that won't help anyone. Create a clear discharge summary, and make sure the medication list in the summary is correct. For example, if meds were stopped or held during the hospital stay, specify why.

## Can Students Regulate Behavior to Deal with Burnout?

An article published recently in *Perspectives on Medical Education* examines how CCLCM students used the Personal Development competency in their portfolio assessment system to reflect on stressors and employ resilience strategies to help them cope with burnout.

The article, titled “Medical student resilience strategies: A content analysis of medical students’ portfolios,” was co-authored by Richard A. Prayson, MD; S. Beth Bierer, PhD; and the late Elaine F. Dannefer, PhD, MSW.

The authors conducted a retrospective study involving portfolio essays of 49 CCLCM students from three classes. At least one resilience strategy was documented by each student over the course of a year. The most frequently mentioned strategies involved personal endeavors, such as extracurricular activities, school-related activities, recreational activities and hobbies. As well, students often cited exercise, nutrition and sleep-related issues.

Likewise, most students mentioned professional activities, such as leadership activities, time management, pursuing a master’s degree, shadowing physicians and career development.

Professional support, such as seeking help from a mental health professional, was among the least-cited strategies.

The study underscores the value of reflective practice and the importance of the portfolio, which serves as a “tool by which students can engage in reflective practice and provides a potential vehicle for open discussion and possible intervention for students with respect to resilience strategies to address various stressors.”

[Read the entire article.](#)



Richard A. Prayson, MD



S. Beth Bierer, PhD



Elaine F. Dannefer, PhD, MSW

## Student Matt Blum is a Kidney STAR

Through the American Society of Nephrology (ASN) Kidney STARS program, CCLCM student Matt Blum ('17) received a travel award and presented a poster at ASN Renal Week in Chicago in November 2016.

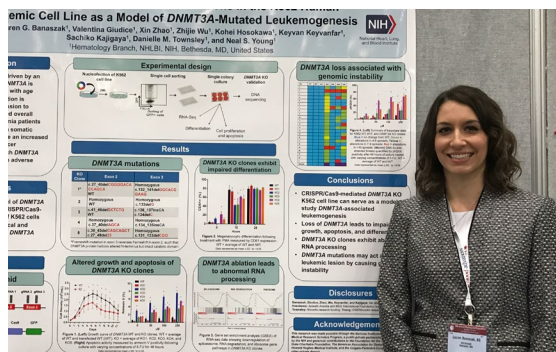
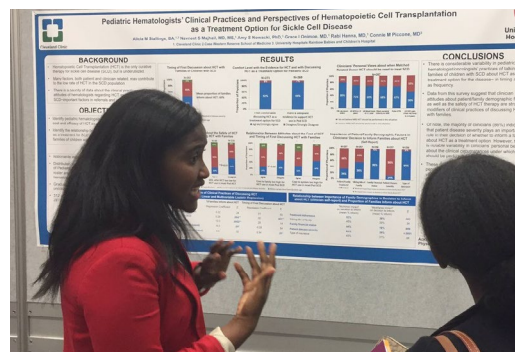
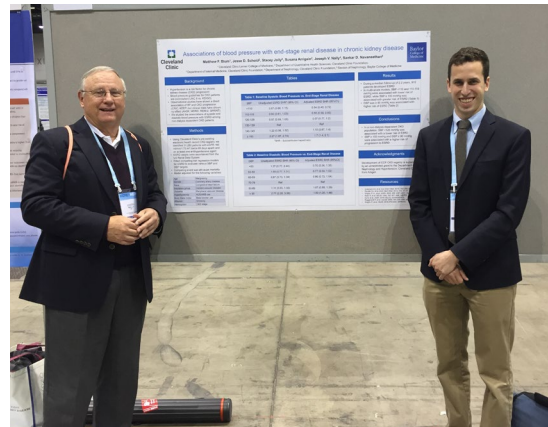
Matt presented as first author on a poster, "Associations of Blood Pressure with End Stage Renal Disease in Chronic Kidney Disease," which he completed with the help of the Cleveland Clinic CKD registry research group.

"Matt participated in a mentoring program and a tour of abstracts on kidney disease with a faculty member from Johns Hopkins and several other students from around the country. Best of all, he was able to attend the Cleveland Clinic Alumni Association dinner in Chicago during the conference. A good time was had by all," says Joseph Nally Jr., MD, Glickman Urological & Kidney Institute emeritus staff member.

"The conference was a wonderful experience," says Matt.

According to the ASN, its Kidney STARS program encourages medical students and residents to consider a career in nephrology.

Congratulations, Matt, on your tremendous accomplishment!



## Student Research Garners Attention – and an Award

Lauren Banaszak ('17), Vishesh Khanna ('18) and Alicia Stallings ('17) presented their research at the 58th Annual American Society of Hematology Meeting and Exposition in San Diego in December 2016.

The trio was honored to be selected as poster presenters, and Alicia received the 2016 ASH Physician-Scientist Career Development Award to fund her project.

### Lauren Banaszak

- CRISPR/Cas9-Induced DNMT3A Mutations in the K562 Human Leukemic Cell Line as a Model of DNMT3A-Mutated Leukemogenesis
- CRISPR/Cas9-Mediated ASXL1 Knockout in U937 Human Leukemic Cells Perturbs Myeloid Differentiation

### Vishesh Khanna

- Recurrent Pathogenic Cyclin D2 Mutations in Myeloid Malignancies



### Alicia Stallings

- Parent and Guardian Knowledge of Hematopoietic Cell Transplantation as a Treatment Option for Sickle Cell Disease
- Pediatric Hematologists' Clinical Practices and Perspectives of Hematopoietic Cell Transplantation as a Treatment Option for Sickle Cell Disease

The ASH conference is the premier event in malignant and non-malignant hematology, annually attracting more than 20,000 attendees.

Congratulations, team. You make CCLCM proud!



## What is Going on Behind the Blank Stare?

In November 2016, the Education Institute hosted Timothy D. Wilson, PhD, Associate Professor at the University of Western Ontario, who presented at Education Grand Rounds and spent the rest of the day meeting with colleagues and students.

Dr. Wilson's Grand Rounds presentation, entitled "What is Going on Behind the Blank Stare? Neurophysiology Provides Clues," focused on how educators can reduce extraneous cognitive load, understand learner spatial ability and help grease the information processing pathways so that the instructional message can move more easily into students' long-term memory.

Through his research, Dr. Wilson has demonstrated that visual coaching helps improve results, particularly for students with low spatial ability, who generally need more time to solve visual problems such as those found in anatomy studies. He's also demonstrated that students don't process information during saccade, or rapid eye movement. Rather, students process information only when they fixate or pay visual attention to salient aspects of the visual learning materials.

The impact of this applied research is that educators need to ensure that they address the entire range of spatial abilities in our learners. Some easy changes are possible and will benefit the learner particularly when using 3D models, visual technology or anything multimedia.

Want to know more? Dr. Wilson recommends reading "[Nine Ways to Reduce Cognitive Load in Multimedia Learning](#)," by Richard E. Mayer and Roxana Moreno.



## CCLCM Students Show Off School Colors

Each year, faculty member Bret Lashner, MD ("Michigan Dad" in the photo) encourages his first-year "kids" to wear their school colors on the last day of class before the Ohio State vs. Michigan football game.

Dr. Lashner directs Gastroenterology Systems 1 and 2 Courses.



## CCLCM Alumnus Updates Staff During Recent Visit

Michael G. Knight, MD ('12) delighted staff recently when he dropped by for a visit. He is currently working at the University of Pennsylvania/Crescenz VA Medical Center as a Clinical Scholar through the Robert Wood Johnson Foundation, researching patient safety and quality. Dr. Knight shared that he is in charge of an intervention designed to improve patient and provider communication in the hospital setting, and a research study on the effect that conflicting mammography screening guidelines may have on patient behaviors.

Dr. Knight, who finished his internal medicine residency at New York Presbyterian Hospital - Weill Cornell Medical Center in 2015, is also active in the National Medical Association and various community service projects, including serving as the President of the [Renewing Health Foundation](#), a non-profit organization he founded in 2012.

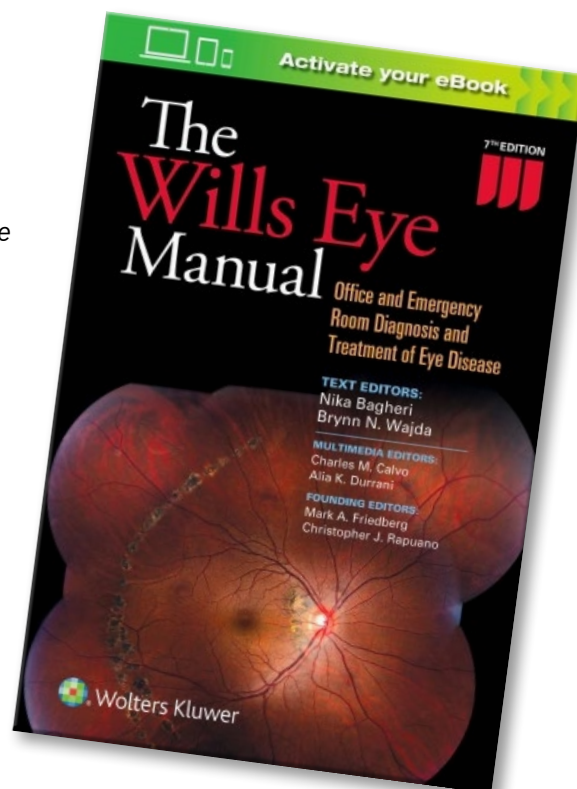
We love hearing from our alumni, and we especially love when they pay us a personal visit!

## Dr. Nika Bagheri Edits Trusted Guide to Eye Disorders

Nika Bagheri, MD ('12) is currently a retina fellow at Bascom Palmer Eye Institute, University of Miami. She was one of the editors of the 7th Edition of the *Wills Eye Manual*, which was published earlier this year.

For more than 25 years, the *Wills Eye Manual* has been a best-selling source of authoritative guidance on treating ocular disorders in an office, emergency room or hospital setting.

Congratulations, Dr. Bagheri, on this prestigious accomplishment!





# Philanthropic Giving

The Education Institute welcomes donations to advance its mission of educating those who serve. Individuals, families, foundations and corporations that believe in the value of education are making a difference in the future of patient care with their generosity. To learn how you can help, please contact Amy Kubacki, Senior Director of Development, at 216.636.5024 or at [kubacka@ccf.org](mailto:kubacka@ccf.org).

## MARK YOUR CALENDAR

**Jan. 30-31, 2017**  
LCME Mock Site Visit

**March 6-8, 2017**  
LCME Site Visit

### Alumni: Share Your News

We'd like to hear about what you've been doing since graduation. If you have news to share (maybe you're involved in an interesting research project or you recently returned from a global health mission), please email Laura Greenwald at [greenwl@ccf.org](mailto:greenwl@ccf.org).

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