

# ANNUAL REPORT

DEPARTMENT OF HEALTH  
MANAGEMENT & SYSTEMS SCIENCES

January 2022

UNIVERSITY OF  
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SCHOOL OF PUBLIC HEALTH  
& INFORMATION SCIENCES

## HMSS MISSION

To improve the health of the people of the Commonwealth of Kentucky and beyond by developing innovative healthcare leaders and partnering with the community to develop, disseminate, and apply evidence-based knowledge about health policymaking, systems design, and quality healthcare delivery.

## ACCREDITATIONS



## LETTER FROM CHAIR

It is a privilege and an honor to be able to share the wonderful ways that the Department of Health Management and Systems Sciences (HMSS) is impacting access, cost, and quality within the healthcare system. We are one of the largest and most productive departments in the School of Public Health and Information Sciences at the University of Louisville (UofL). Our degree programs continue to produce leaders that manage the future of healthcare, develop and implement health policies, produce data analytics that aid healthcare decision-makers, and create new science with novel ways of solving real-world health services problems that face our nation.

COVID-19 greatly impacted everyone in our community, and HMSS reacted quickly and effectively within this new environment. Teaching modalities changed, practicum opportunities adjusted, and our work environment became remote. HMSS faculty are at the forefront of Louisville's pandemic response and planning. From our close relationship with the Louisville Metro Department of Public Health and Wellness to our students' integration within healthcare delivery systems, HMSS is helping our community thrive within uncertain times.

It is my great fortune to have served as HMSS Chair for the past seven years. We have expanded from one MPH concentration and a PhD program to offering multiple master's degrees (online and in-person), a health management undergraduate minor, and an accelerated BA/MPH in Health Policy. We are currently expanding into dual degree programs: the dual MPH/MSHA was recently approved and the dual MBA/MSHA is under development with the UofL College of Business.

The HMSS research portfolio has grown so much this past year that we are able to offer all our entering doctoral students (and some master's students) graduate assistantships to cover tuition costs, health benefits, and salaries. This level of support is possible due to faculty securing grants and contracts that fund research within our Health Data Analytics Center, National Science Foundation Center for Health Organization Transformation, and Commonwealth Institute of Kentucky.

Our department has also welcomed several new faculty members. Andrew McCart, a graduate of UofL and Indiana University, joined as associate director of the MSHA program after serving as program director of UofL's undergraduate program in healthcare leadership. Additionally, Katie Yewell, a recent graduate of Vanderbilt University's doctoral program in Economics, joined our faculty and will focus her teaching and research in health economics. A few years ago, Dee Antimisiaris moved the Frazier Polypharmacy Program into HMSS, and this year has helped create a national network committed to transforming how medications and vaccines are delivered in the United States.

We put together this annual report to provide a brief glimpse at the wonderful students, staff, and faculty within our department. We are very proud of our collective achievements and want to share these accomplishments with you!



### Christopher E. Johnson

Urban Health Policy Endowed Chair  
Professor and Chair

Department of Health Management and Systems Sciences  
Site Director, NSF Center for Health Organization Transformation  
School of Public Health and Information Sciences  
University of Louisville



## ACADEMIC PROGRAMS: PAST YEAR HAPPENINGS

### MASTER OF PUBLIC HEALTH CONCENTRATION IN HEALTH POLICY

The MPH concentration in Health Policy (MPH-HP) develops innovative policy leaders to engage in health policymaking and implementation within the healthcare and public health systems. The program engages nationally known faculty, health policy practitioners, and students to generate and disseminate evidence-based health policy analyses, evaluations, and recommendations. The MPH-HP program maintains a dynamic collaboration with the Louisville Metro Department of Public Health and Wellness (LMPHW) and the LMPHW Center for Health Equity to provide first-hand opportunities for students to address public health challenges in a top-20 U.S. city.

In the last year, health policy students studied health disparities in the Louisville community as part of LMPHW's Health Equity Report to understand barriers to gender affirming healthcare services in Louisville. Students also worked on a research study with HMSS faculty to measure cross-sector alignment among organizations serving women in recovery in two Kentucky communities. These experiences offer students and MPH-HP faculty opportunities for engaging in collaborative, multidisciplinary, evidence-based work with the potential to truly inform and impact policy. Once students complete the MPH-HP program, they find jobs as project or research program managers, research assistants, or policy analysts in governmental, not-for-profit, or advocacy organizations.

### ACCELERATED PROGRAM

The accelerated degree program allows students to complete the Bachelor of Arts (BA) in Public Health and the Master of Public Health (MPH) with a concentration in health policy over a five-year period. The first four years consist of undergraduate studies, including five core public health graduate level courses taken during the senior year, culminating in the award of the BA in Public Health. The fifth year, including the summer following graduation with a bachelor's degree, consists of graduate coursework in public health, leading to completion of the MPH. Accelerated students also complete a practice experience as part of the program. Looking forward, we anticipate growth in interest and enrollment in the accelerated degree program.

### HEALTHCARE MANAGEMENT MINOR

Eleven students enrolled in the department's recently developed 18-credit hour Minor in Healthcare Management. It consists of courses in health systems, health law and ethics, governance and management, public health, health policy, health finance, and financial management. An undergraduate student who minors in healthcare management can transition to the MS in Health Administration program, having completed two dual undergraduate-graduate courses. If the demand for the minor continues, we will develop a healthcare management track within the undergraduate public health program.



*“I chose the University of Louisville’s program [MS in Health Administration] because the courses were designed to prepare healthcare leaders to balance operational and fiscal responsibilities of delivering care and strategy development to tackle health challenges that impact communities at large.”*

ANDREA JOHNSON '19, MS IN HEALTH ADMINISTRATION



### MASTER OF SCIENCE IN HEALTH ADMINISTRATION (MSHA)

The department expanded access to the accredited MSHA program by offering a complementary online track of our 57-credit hour curriculum for working healthcare professionals with at least five years of organizational experience. This change enables us to provide high-quality graduate healthcare management and leadership competency development beyond our traditional in-person, evening track. Additionally, the program completed a self-study in preparation for a Commission on Accreditation for Healthcare Management Education (CAHME) reaccreditation visit in 2022.

The MSHA program earned substantial national recognition and generated social-professional value in the field of healthcare management during last academic year. Several student teams earned acclaim for their performance in national case study and essay contests while the program also placed students in prestigious post-graduate administrative fellowships. MSHA program director, Lee W. Bewley, assumed responsibilities as President of the Kentucky Chapter of the American College of Healthcare Executives, which serves more than 600 state members and three graduate higher education network programs.



## ACADEMIC PROGRAMS: PAST YEAR HAPPENINGS



### MASTER OF SCIENCE IN HEALTH DATA ANALYTICS (MSHDA)

The MSHDA program prepares students for employment in academia and industry for health data analytics. The 33-hour program can be completed in as little as one and a half years as a full-time student or three years as a part-time student. Students receive statistical training (e.g., probability, univariate, multivariate) and learn techniques used in artificial intelligence and machine learning (i.e., logistic regression, decision trees, neural networks, natural language processing, support vector machines). A capstone course prepares students for several certification examinations. The most notable certification is the Certified Health Data Analyst (CHDA) exam, which graduates list as a credential along with the MSHDA. Importantly, the CHDA is usually associated with a \$25,000 higher salary.

The program culminates with a practicum experience, in which students explore real-world problems by working over 200 hours in an analytics industry shop or under an industry supervisor. Current MSHDA students are doing practicums at Humana and University of Louisville.

### PHD IN PUBLIC HEALTH SCIENCES - SPECIALIZATION IN HEALTH MANAGEMENT AND POLICY

The PhD in Public Health Science with a specialization in Health Management & Policy continues to produce health services researchers making an impact on cost, quality, and access to healthcare services around the globe. Significant changes were made to the program in 2016, and HMSS and its students are reaping the benefits of these changes. Doctoral students are routinely publishing papers from their three-paper dissertations, presenting research at important scientific conferences, and participating in the cutting-edge research conducted within the school. The program recently added an emphasis area in data analytics that is popular among students interested in academics and industry. These graduate students work with HMSS faculty to develop data analytics skills and solve complex problems within healthcare.

HMSS recently hired graduates of the PhD program to serve as faculty within the department. For example, Giang Vu ('20) is an assistant professor and a key member of our health analytics data group. Vu is a product of our new health services research approach, which has translated into academic jobs both in the USA and internationally for our graduates. The doctoral program continues to educate students that work within the healthcare industry and aids them in securing job opportunities within the industry post-graduation.

## HMSS FACULTY FAVORITES

Each year, UofL students nominate faculty for Faculty Favorites Awards. This longstanding student-led recognition program celebrates UofL educators for the positive and lasting impact they make every day in the lives of our students. Seven faculty members in HMSS were selected as 2020-21 Faculty Favorites.



**Lee Bewley**  
Associate Professor



**David Johnson**  
Assistant Professor



**Liza Creel**  
Associate Professor



**Seyed Karimi**  
Assistant Professor



**Christopher Johnson**  
Professor and Chair



**Andrew McCart**  
Assistant Professor



**Robin Weiss**  
Assistant Professor, Adjunct



“ [David] Johnson goes above and beyond the call of education daily. He not only presents information about current events and how to unpack them, but encourages habits we will use in our public health careers daily. He is always available to help and is an unending source of encouragement and thoughtful advice.”

SPHIS STUDENT





### COVID-19 PROJECTIONS IN JEFFERSON COUNTY, KENTUCKY

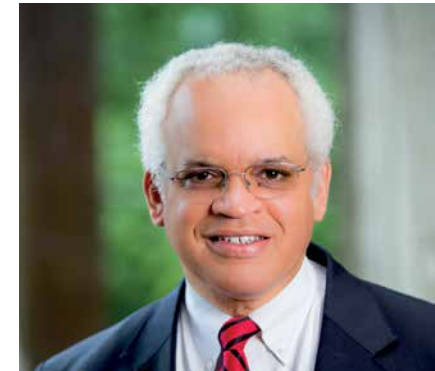
A team of UofL SPHIS researchers, led by Seyed Karimi, is projecting trends in COVID-19 cases in Jefferson County using a model of epidemic dynamics called the susceptible exposed-infectious recovered (SEIR) model, which allows the team to measure the effect of public health policy interventions to contain COVID-19. Karimi is an assistant professor in HMSS and health economist in the Louisville Metro Department of Public Health & Wellness. The school is maintaining a website to make these data available to the public, which is available at [louisville.edu/sphis/research/covid-19-projections](https://louisville.edu/sphis/research/covid-19-projections).

### “POLYPHARMACIST” RECEIVES HIGH HONOR

The Frazier Polypharmacy Program, which is dedicated to research, education, and outreach, continues to grow under the leadership of program director and assistant dean of Continuing Medical Education & Professional Development Demetra Antimisiaris. “Historically, polypharmacy was exclusively a problem of aging, but now it is a part of life for all ages, including middle-aged adults and children. If a child has asthma, diabetes, and ADHD, they could be receiving as many as seven or more medications, not including over-the-counter medication,” said Antimisiaris.



The American Society of Consultant Pharmacists (ASCP) recognized Antimisiaris' contributions to the profession and conferred her with the George F. Archambault Award, the organization's highest honor. ASCP Archambault Award honorees are selected by past recipients based on their significant contributions to consultant or senior care pharmacy. Antimisiaris received this award for her innovative work including her success in the creation of online technologies and other novel approaches to reduce the risk arising from polypharmacy for vulnerable populations.



CHRISTOPHER E. JOHNSON



LEE BEWLEY

### CHANGES IN PRIMARY CARE ACCESS IN WEST LOUISVILLE

Professor and chair Christopher Johnson and MSHA program director Lee Bewley are leading a Center for Health Organization Transformation research team that is examining how primary care access changed in West Louisville from 2014 to the present. This project is jointly sponsored by UofL Health and Passport/Molina Health Plan. The team of faculty and students will examine the impact of new clinics on primary care access, the distance that West Louisville residents must travel for primary care services, and factors associated with non-care seeking behavior by residents who are covered by Medicaid insurance. The project will use a combination of Medicaid, Kentucky Cabinet for Health and Family Services, and publicly available federal data. The project will also include resident interviews about their primary care services seeking behavior.

### SARAH MOYER RECOGNIZED AS A NATIONAL LEADER IN PUBLIC HEALTH BY THE DE BEAUMONT FOUNDATION

Sarah Moyer, director of the Louisville Metro Department of Public Health and Wellness and HMSS associate professor, was recognized by the de Beaumont Foundation as one of its inaugural 40 Under 40 in Public Health. The 40 rising stars of public health were chosen for their fresh perspectives, creative problem-solving, and innovative health solutions in communities across the country.



She accepted the award on behalf of the hundreds of LMPHW employees who work day in and day out to create a healthy Louisville where everyone and every community thrives.

“Under Moyer’s leadership, our collaboration with the health department is stronger than it’s ever been,” said Craig Blakely, Dean, UofL School of Public Health and Information Sciences. “We work together on research and grant opportunities, but most importantly, we work together to give public health students relevant, practical skills that help them become our future public health professionals. This award for Moyer is well-deserved.”





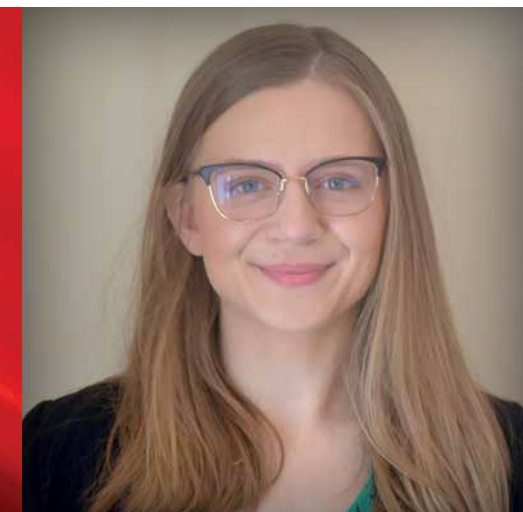


## THE HEALTH DATA ANALYTICS CENTER

HDAC emerged in response to demands for data-driven, evidence-based solutions that address contemporary needs in public health, medicine, and basic science. The center is a university-wide collaboration that uses a combination of state-of-the-art AI, analytics technology, and leading-edge big data supercomputing to improve population health. Current sponsored research projects include Type 2 Diabetes Mellitus (T2DM) and social determinants of health, oral health and T2DM, alcohol and liver disease, colorectal cancer surveillance, breast cancer in Kentucky, barriers to Hepatitis C treatment, Medicaid market analysis, polypharmacy in the elderly, microbiome and epigenetics in liver disease and neuroscience, and remote patient monitoring (RPM) for chronic disease management. Current project funding exceeds \$4 million.

*“My SPHIS degree provided me with the skills necessary to be a competitive [job] candidate. I have utilized various concepts learned from my time at SPHIS. From understanding the importance of how data is collected to conducting policy analyses, my degree helped me secure my current role.”*

SELMA AVDIC '19, MPH WITH A CONCENTRATION IN HEALTH POLICY



## CENTER FOR HEALTH ORGANIZATION TRANSFORMATION

CHOT, an NSF-funded center, is on the cutting edge of transforming the cost, quality, and access of healthcare services. CHOT's collaborative research projects seek to innovate and lead change in the healthcare industry. CHOT's current and past member organizations include the Association of Professional Chaplains, CHI Saint Joseph Health, Home Instead Senior Care, IDEAS xLab, National Association of Catholic Chaplains, Passport Health Plan, Sanofi, The Humana Foundation, UofL Hospital, and YouthBuild Louisville.



## COMMONWEALTH INSTITUTE OF KENTUCKY

CIK's mission is to inform policy and practice that will improve the health of populations in Kentucky and beyond by facilitating and supporting transdisciplinary collaborations for research and data analytics. Primary operations include community-based research, health policy research and education, and data warehousing and analytics.

## FRAZIER POLYPHARMACY PROGRAM

The Frazier Polypharmacy Program was established through the support of a local citizen and philanthropist with a long-standing concern about polypharmacy. Polypharmacy is the use of multiple prescriptions, over-the-counter medications, supplements, and vitamins that can diminish overall wellness. The endowed program studies medication use in all ages and explores what polypharmacy means to consumers, caregivers, employers, educators, healthcare providers, and others.

The Frazier Polypharmacy Program has enjoyed wonderful collaborations with several external collaborators. The collaborators include Poznan University of Medical Sciences Poland, University of California, Passport by Molina Health, Alzheimer's Association, Humana Community Partners, and a growing number of health systems.



“SPHIS stood out to me among peer programs because it offered an opportunity to pursue my degree while also working full-time, has a smaller program that allows for a low professor-to-student ratio, and emphasizes innovative, hands-on learning.”

MOLLY O'KEEFE '19, MS IN HEALTH ADMINISTRATION

### CHOT PARTNERS WITH DHL TO ASSESS ENGAGEMENT WITH WELLNESS PROGRAMS

In early 2021, CHOT began a partnership with DHL, a global shipping and logistics company, to assess employee engagement in wellness program offerings. Employee-sponsored wellness programs are a growing area of research since firms of all sizes want to better understand the effects of nonparticipation and their return on investment. True effectiveness of efforts to improve the health outcomes targeted by these wellness programs involves the promotion of lasting behavior change by bridging organizational culture with behavior.

Under the direction of J'Aime C. Jennings, associate professor and CHOT co-director, CHOT researchers designed and deployed a survey to identify barriers and opportunities for employees to engage in the wellness program offerings from DHL. Once the data are analyzed, CHOT will prepare a report with strategic recommendations that DHL can use to increase employee engagement and wellness. Overall, this research project will benefit CHOT industry partners by benchmarking data on the wellness behaviors of employees, offering contextual and industry best practices, and providing evidenced based modeling and action steps for driving engagement in health/wellness.

### “EARN AND LEARN” OPPORTUNITIES

The MS in Health Administration (MSHA) program has established “earn and learn” opportunities with Louisville-based healthcare organizations that provide employment opportunities for full- or part-time students. Norton Healthcare selected an MSHA student for a paid summer internship that translated into a competitive Norton Scholar position, which provided part-time employment and integrative learning. More than a dozen MSHA students also served as administrative interns with UofL Health coordinating pandemic responses and vaccination mobilization activities.

### POLYPHARMACY RESEARCHERS ARE TRANSFORMING HOW MEDICATIONS AND VACCINES ARE DELIVERED

The delivery and use of medications and vaccines in the United States is suboptimal. With a goal of studying how to transform the delivery and use of medications and vaccines for optimization, CHOT researchers, in collaboration with the Frazier Polypharmacy Program, completed a Phase I study in 2020 called RAPID Alliance. RAPID Alliance convened thought leaders through a Delphi method to identify barriers to overcome in medication and vaccine optimization.

Phase I of the study pointed to the significance of optimized medication use, with potential reduction in US spending on avoidable hospitalization and emergency department and doctor visits of as much as \$528 billion. Phase II is a Meds360 Study, which is a health service ecosystems research project. Forty universities will help lead this all-hands-on-deck effort to rapidly co-create the RAPID Alliance Medications 360 Strategic Framework 2022-2031, a set of transformational strategies and nationally prioritized research plans for optimizing the use of medications, vaccinations, and emerging therapies.

### CIK'S URBAN POLICY AND PROGRAM SURVEILLANCE PROJECT

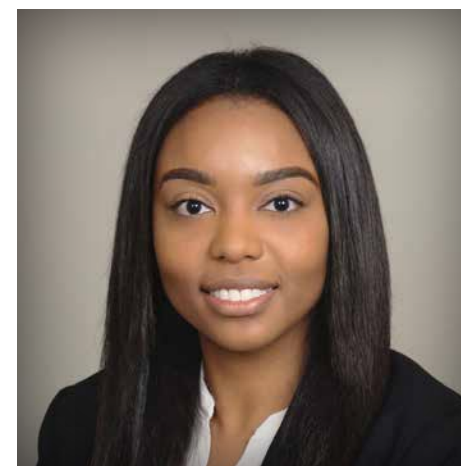
The Commonwealth Institute of Kentucky is a partner in the expansion of Drexel University's Urban Policy and Program Surveillance Project. The project identifies best practices at the local level in policy, programmatic, and budgetary initiatives to promote health equity. A total of seven cities are included in the project: the original four cities - Philadelphia, New York City, Washington DC, and Los Angeles - which were joined by Louisville, St. Louis, and Birmingham (AL) in 2019. Schools of public health in each city lead local surveillance efforts.

The CIK research team receive technical assistance from Drexel on their surveillance approach focusing on local policies and programs in the areas of health, education, housing, and the environment - all of which are key to achieving health equity. In the last year, the project also added policing and criminal justice policy as areas of focus. Through cross-city policy briefs and community engagement, the project seeks to identify best practices in local policymaking and programming that could translate to and inform decision-making in Louisville and other urban communities.

Liza M. Creel, associate professor and CIK director, serves as the project lead along with SPHIS graduate student Kaila Washington. For more information on CIK, please visit <https://louisville.edu/sphis/departments/cik>.

### EXAMINING SOCIAL DETERMINANTS OF HEALTH

In 2019, Center for Health Organization Transformation (CHOT) researchers began working with The Humana Foundation to review the literature around social determinants of health such as social connectedness, food security, financial asset security, post-secondary success, and sustainable employment. The team also conducted a social network analysis among communities funded by the Foundation to better understand existing inter-agency relationships as well as the impact of their investments to improve population health. J'Aime Jennings is leading the research alongside her colleague Liza Creel and a team of doctoral and masters-level research assistants.

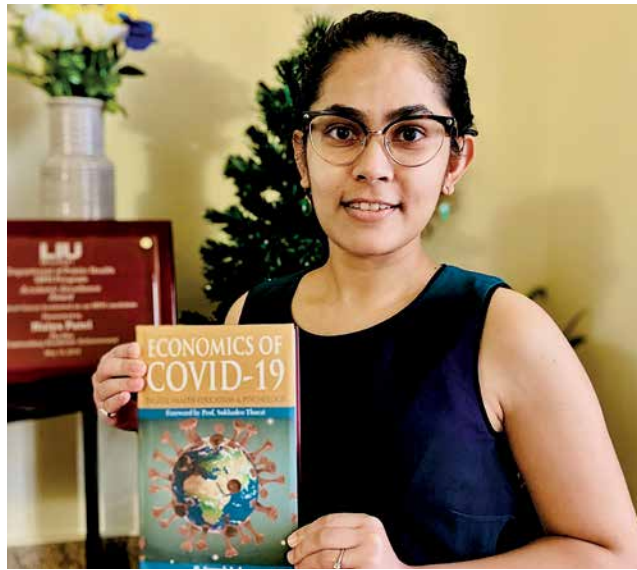


“SPHIS prepared me for my current role by using an active learning approach.”

TIONNE GOODSON '18, MPH WITH A CONCENTRATION IN POPULATION HEALTH MANAGEMENT



## STUDENTS IN THE NEWS



### HMSS DOCTORAL STUDENT: AUTHOR ON NEW BOOK ABOUT THE ECONOMICS OF COVID-19

Naiya Patel, a doctoral candidate studying health policy, is co-editor of *Economics of COVID-19: Digital Health, Education and Psychology*. Her book makes an effort to broaden the COVID-19 pandemic's potential impact on different sectors worldwide, particularly in India.

It intends to prepare all critical areas like economics, public health, education, digital strategies, psychology, and telemedicine, by providing insights through valuable research and opinions of authors worldwide.

### MSHA TEAMS PARTICIPATE IN NATIONAL CASE COMPETITIONS AT UAB, UCLA, AND CLEVELAND CLINIC

MS in Health Administration graduate students Joseph Holland, Dillon Campbell, and Hope Wilding were semi-finalists in the University of Alabama at Birmingham National Case Study Competition. The team's task was to develop a recommendation for the best method to measure access for new and established patients to specialty care services across the Veterans Health Administration. Their presentation garnered National Semi-Finalist honors, and they were named one of the Top 12 CAHME-accredited teams from across the country in the competition.



Another MSHA case study team participated in the UCLA Center for Healthcare Management case competition that gives students a chance to showcase their knowledge and compete for prize money. Zoe Resmondo, Faith Watrous, Rachael Parrill, and Matt Kretzchmer had 88 hours to analyze a real-world management challenge without support from faculty. Their case submission was one of the top eight (out of 35) selected to be presented in-person to UCLA Health System executives in Los Angeles. The team provided specific recommendations on developing direct contracting healthcare services for employers in the Los Angeles market.

The Cleveland Clinic Case Study competition team ranked in the top 16 among 51 teams representing top graduate healthcare management programs from across the country. The team included MSHA students, Vanesa Mujin, Devika Gopan, Marriah Foss, and Charles Sowards. They conducted case analyses and presentations focused on improving clinical operations in a post-pandemic marketplace. The competition was conducted virtually over multiple weeks and stages of analysis.

### NATIONALLY COMPETITIVE ADMINISTRATIVE FELLOWSHIPS EARNED BY MSHA GRADUATES

- Dillon Campell MSHA '20, Norton Healthcare
- Shannon Forde MSHA '21, Baptist Health-Kentucky
- Zoe Resmondo MSHA '21, Medical University of South Carolina Health
- Maddie Taylor, MSHA '22, Medical University of South Carolina Health



### ELLEN M. BUCHART SCHOLARSHIP

MS in Health Administration student Tiff Haub was awarded a \$2,000 academic scholarship from the Kentucky Public Health Association (KPHA). Awardees of the Ellen M. Buchart Scholarship must be a member of KPHA and a junior, senior, or graduate student with a health or science major; preference is given to students in public health programs.

### HMSS STUDENT NAMED 2021 HEALTH ENTERPRISES NETWORK HEALTHCARE FELLOW

Scott Skinner, doctoral candidate in HMSS, was selected as a 2021 Health Enterprises Network Healthcare Fellow. Beginning in February 2021, Scott joined a group of up to 24 professionals from the Greater Louisville area to participate in the 10-month program. Fellows are challenged to grow in their leadership capacity, increase their health-related knowledge, and expand their professional reach through monthly sessions with community leaders, academics, elected officials, organizational experts, researchers, and entrepreneurs.

### KELSEY WHITE AND TEAM OF HMSS RESEARCHERS PUBLISHED IN JOURNAL OF RELIGION AND HEALTH

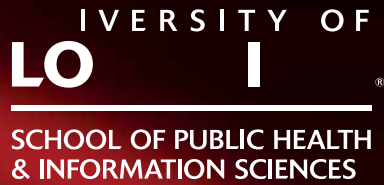
A team of HMSS researchers led by HMSS alumna Kelsey White, published an article in the *Journal of Religion and Health* titled, "Examining Factors Associated with Utilization of Chaplains in the Acute Care Setting." The team looked at hospital data to identify population characteristics associated with the utilization of chaplaincy services. They found religiously affiliated individuals and those with the most acute health needs were more likely to receive chaplaincy care and received more total care. HMSS co-authors included J'Aime Jennings, Seyed Karimi and Chris Johnson.



“SPHIS offers a collaborative and engaging learning style with a particular emphasis on diversity and inclusion”

Sonali Sachin Salunkhe, doctoral candidate in Health Management & Policy





## FOR ADDITIONAL INFORMATION

Please visit our website: [louisville.edu/sphis](https://louisville.edu/sphis)

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