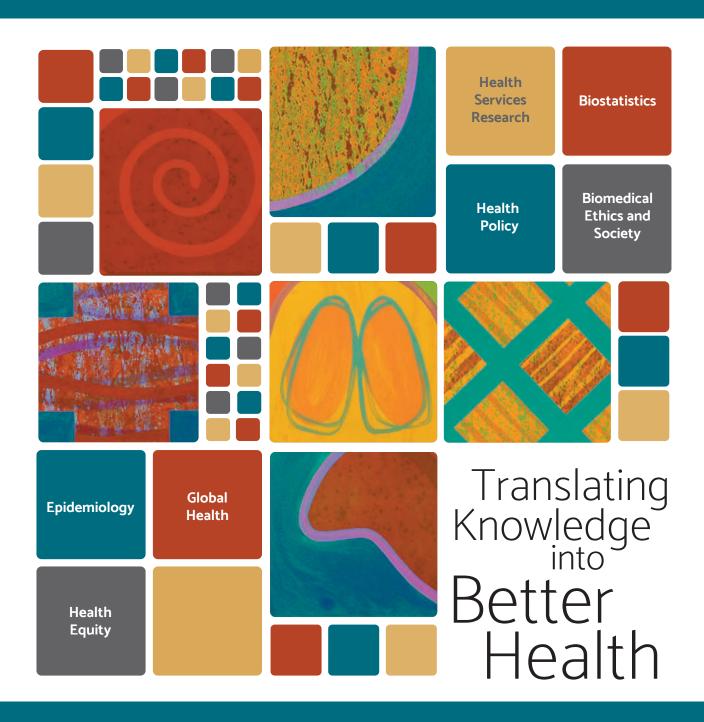
Vanderbilt Institute for Medicine and Public Health 2019-2020 Fiscal Year Highlights



FACULTY

>250 from
Schools of Medicine,
Nursing, and Arts
and Science

>\$215 million (>\$105 from NIH)

28 RESEARCH CENTERS
2 DEPARTMENTS

Master of Public Health (MPH)
TRACKS: Health Policy •
Global Health • Epidemiology

Master of Science
Biostatistics

DOCTORAL PROGRAMS (PhD)

Health Policy Biostatistics Epidemiology



The IMPH provides academic, research and infrastructure support for a wide array of efforts at Vanderbilt University Medical Center aimed at improving individual and population health nationally and internationally. The Institute seeks to connect research and teaching with policy and practical solutions. The Institute currently provides support for 28 research centers and two Departments, including the Center for Health Services Research, the Center for Epidemiology, the Center for Biomedical Ethics and Society, the Institute for Global Health, the Department of Health Policy, and the Department of Biostatistics.

The Institute engages over 250 faculty across departments in the Schools of Medicine, Nursing, and Arts and Sciences. Faculty affiliated with the Institute are engaged in a robust array of funded research, making it one of the top funded programs of public health in the nation. The Institute also provides support for junior faculty and postdoctoral training programs, MPH programs in Epidemiology, Global Health and Health Policy, MS program in Biostatistics, and PhD programs in Biostatistics, Epidemiology and Health Policy. The Institute also provides support for community and health equity programs, public health initiatives, and health policy efforts.



>160 VANDERBILT FACULTY from 3 SCHOOLS and 14 DEPARTMENTS

\$50 MILLION in ANNUAL FUNDING

6 TRAINING PROGRAMS

>50
POSTDOCTORAL
FELLOWS

>500
PUBLICATIONS
ANNUALLY

40k occupied square feet



The **Center** develops, implements, and evaluates interdisciplinary solutions to improve health care delivery and health outcomes for patients, families and the community. We perform research and advance knowledge to create health care systems which provide care that is safe, timely, effective, patient-centered, efficient, and equitable.

SUPPORTED PROGRAMS and INNOVATION

- · Center for Clinical Quality and Implementation Research (Kripalani)
- · Center for Surgical Quality and Outcomes Research (Penson)
- Center for Health Behavior and Health Education (Elasy)
- · Center for Effective Health Communication (Cavanaugh, Kripalani)
- · Center for Research and Innovation in System Safety (Weinger)
- · Center for Quality Aging (Simmons)
- · Center for Emergency Care Research and Innovation (Collins, Self)
- · Center for Critical Illness, Brain Dysfunction and Survivorship (Ely, Pandharipande)
- · Center for Asthma Research (Hartert)
- · Women's Health Research (Velez-Edwards)
- Veteran's Health Services Research (Murff)
- Child Health Policy and Health Services Research (Patrick)
- · ViTAL: Vanderbilt Center for Tobacco, Addiction, and Lifestyle (Tindle)
- Center for Musculoskeletal Research (Archer)
- · Center for Population and Public Health Informatics (Matheny, McPheeters)
- · Geriatric Research, Education and Clinical Center (Dittus)
- Center for Cardiovascular Outcomes Research and Trials Evaluation (Freiberg)
- Rural Health Equity Research Program (Murry)
- · Center for Health Care Modeling (Graves)

Research Network Activities



Healthcare Worker Exposure Response & Outcomes

Uniting our healthcare community to protect the health and well-being of America's frontline workers The HERO Registry is a community of people working in health care who share what it is like to work and live during the COVID-19 pandemic. Study participation is open to vaccinated worker through the HERO-TOGETHER initiative. VUMC is a HERO site for this PCORI-funded research program.

STAR Stakeholders, Technology, and Research CRN

With data on over 12 million patients, the STAR CRN
Network consists of academic health centers, community
hospitals and a range of outpatient practices including
primary care, specialty practices and safety net facilities that serve
diverse populations. Through this network, we have access to a broad
array of clinical data, informatics tools, patients, providers, and systems
to address an array of research questions. The objective of our CRN

array of clinical data, informatics tools, patients, providers, and systems to address an array of research questions. The objective of our CRN is to robustly support comparative effectiveness studies, pragmatic clinical trials, health system innovation, and the other research needs of our stakeholders and partners. Our network is particularly focused on research to improve health in the southern United States which has the highest rates of obesity, diabetes, cardiovascular disease, certain cancers, and other conditions, as well as significant disparities in health status and health care delivery.

Hospital Medicine Reengineering Network (HOMERuN) VUMC is a founding member of the HOMERuN collaborative, which engages hospitalists, researchers, and hospital medicine groups



at leading
medical centers
nationwide,
accelerating
the discovery

and swift implementation of quality care improvements. Sunil Kripalani, MD, MSc, and Eduard Vasilevskis, MD, MPH, lead VUMC's participation. Projects include multi-site studies on the preventability of hospital readmissions; incidence, causes, and risk factors for diagnostic error in hospital settings (UPSIDE); and a large clinical collaborative on COVID-19. HOMERUN maintains an active Patient & Family Advisory Council, established under a Eugene Washington Award from PCORI.

GRANT PORTFOLIO

\$8.5 million

The Department of Health Policy faculty conduct and publish research on a wide range of areas from health care economics, infectious disease, prescription drug pricing, health information technology, Medicare and Medicaid, and maternal and child health. The research and innovative qualitative and quantitative research methods are focused on reducing disparities in health care, and is intended to guide health policy relationships and help policymakers understand implications of their work.

FACULTY

22 PRIMARY
25 WITH SECONDARY
APPOINTMENT

STUDENTS

59MPH

Health Policy • Global Health Epidemiology

3PHD

Health Policy



Vanderbilt University's **Department of Health Policy** brings together a broad group of health policy scholars devoted to developing health policy solutions that can have a profound impact. The Department builds on a history of strong collaborative relationships with the Tennessee Department of Health, the Centers for Disease Control and Prevention, and several frontline policy makers to develop health policy solutions for our nation's most pressing health care challenges.

The combination of a major research university and preeminent medical center gives Department faculty incredible opportunities to build relationships with frontline care providers and policymakers which can lead to breakthrough discoveries. The Department fosters a deep belief that research and innovative thinking should guide health policy relationships and help policymakers understand implications.

Research Into Policy & Practice Lecture series (RIPPL)

"Medicare for All" - 2019





Value-Based Health Care Delivery Seminar





GRANT PORTFOLIO

\$35 million

FACULTY

56 PRIMARY

Vanderbilt Epidemiology Center is committed to conducting research to enhance our understanding of the distribution and determinants of disease and inequities in health in diverse populations, to promoting collaboration aimed at the translation of research into strategies of disease prevention and health care delivery, to training independent investigators in epidemiology research and disease prevention.



Vanderbilt Epidemiology Center faculty investigators come from more than 10 Medical Center departments and divisions, bringing a depth of knowledge which is reflected in the innovative methods and novel discoveries being made. Our faculty share a broad interest in the research to investigate environmental and lifestyle factors, biomarkers and genetic makeup for risk and progression of diseases.

Current research areas include epidemiology of cancer, cardiovascular disease, diabetes, infectious diseases, and reproductive outcomes. Center investigators direct more than 50 NIH-funded research projects including three large population-based prospective cohort studies with over 225,000 study participants. Other ongoing studies include multiple large case-control studies of cancer and follow-up studies of breast cancer and childhood cancer survivors.

The center has considerable strengths in international epidemiologic research and training and has close ties with multiple domestic and international institutions, furthering our mission to improve the health of human beings.



MAGEC Postdoctoral Fellowship

The Vanderbilt Training Program in Molecular and Genetic Epidemiology of Cancer (MAGEC) was equips postdoctoral fellows from a variety of disciplines with the methodological tools, practical laboratory and surveyresearch knowledge, and hands-on research and grant writing experience necessary to launch an independent career in the molecular and genetic epidemiology of cancer.



520 ETHICS CONSULTATIONS IN FY20

The Clinical Ethics Consultation Service [CECS] responds to requests for support in addressing ethical questions, conflicts or concerns in patient care.

- The CECS is a resource for inpatient and outpatient settings across VUMC and the Vanderbilt Health Affiliated Network. Clinical ethics consultation may be requested by any member of the VUMC faculty and staff, as well as by patients, their surrogates and family members.
- The CECS aims to elevate patient care by improving health care decision making, promoting and supporting shared decision making, and by facilitating and encouraging respectful engagement of ethical concerns.
- Broadly, ethics consultants work with health care teams to discern medically appropriate care goals/options and milestones of effectiveness; they also help patients/ families identify and explore relevant preferences and values in relation to their goals and medical options. No fees are charged for this service. An ethics consultant is on call 24 hours a day, 7 days a week.

Clinicians, patients and/or families should consider requesting an ethics consultation when they think additional ethics support would be helpful in addressing ethical concerns, questions or conflicts that arise in the areas below:

- Decision-Making Capacity
- · Informed Consent and Refusal
- Surrogate Decision Making
- Advance Care Planning and Advance Directives
- End-of-life Decision Making
- Privacy and Confidentiality
- · Complex Discharge Planning
- Decision Making for Minors
- Unusual or unprecedented patient care situations



CENTER FOR Biomedical Ethics & Society

Director, Keith G. Meador, M.D., Th.M., MPH

The vision and mission of the **Center** is to provide leadership in education, research, and clinical service at Vanderbilt University Medical Center concerning the ethical, legal, and social dimensions of medicine, health care, and health policy. The Center is committed to multi-disciplinary exploration of the individual and social values, cultural dynamics, and legal and professional standards that characterize and influence clinical practice and biomedical research. The Center aims to be a catalyst for collaboration in teaching, research, and practice at Vanderbilt and to contribute to scholarship and policy making from the local to the international level.



The Medical Student Certificate in Biomedical Ethics comprises three components that build upon the core curricular offerings in ethics provided in Foundations of Medical Knowledge and Foundations of Clinical Care.

- Interdisciplinary Graduate Seminar, Ethics in Healthcare
- · Research Immersion Experience
- Apprenticeship with the Clinical Ethics Consult Service

The Graduate Medical Education Certificate of Distinction in Biomedical Ethics acknowledges advanced training and experience in clinical bioethics. This Distinction is granted by Vanderbilt University Medical Center and the Office of Graduate Medical Education (GME) after successful completion of a curriculum

coordinated through the Vanderbilt Center for Biomedical Ethics and Society (CBMES). The program seeks to enhance physician leadership in clinical knowledge, practical competency and institutional infrastructure for healthcare ethics.

Dixon N. Burns Award in Medical Ethics - This is an award given by the Center for Biomedical Ethics and Society to the graduating medical student who has gained distinction in biomedical ethics through notable scholarship, excellence in clinical ethics consultation, and collegial engagement in the life of the Center as a medical student. 2020 recipient was Samuel Trump.

PTM Lecture

RESEARCH PROJECTS

- Beyond Data Security: Promoting Confidentiality and Advancing Science
- Ethical Approaches to Research Use of Clinical Records and Data
- Enhancing the Biobanking Informed Consent Process
- Unregulated Health Research Using Mobile Devices
- LawSeq
- · Get Precise

PROGRAMMATIC INITIATIVES

- Empirical Ethics
- Surgical Ethics
- Genomics/ELSI
- Rooted Community Health (and CSA Program)



Education
and Training
We provide the tools
and education to
promote health equity.



Community & Population Health

We create partnerships to improve community and population health and advance health equity.



Research

We foster research that addresses health inequities, facilitate academic/community partnerships, and provide trainings around communityengaged research.



OFFICE OF Health Equity

Director, Consuelo H. Wilkins, M.D., MSCI

In 2016, Vanderbilt was selected by the Association of American Medical Colleges as 1 of 8 institutions involved in a multi-year project, "Building a Systems Approach to Community Health and Health Equity for Academic Medical Centers." This project accelerated the creation of a medical centerwide Office of Health Equity (OHE). The OHE expands health equity programs across the VUMC enterprise and supports health equity initiatives in the community.

VUMC established the positions of Vice President for Health Equity, Associate Dean for Health Equity (Consuelo H. Wilkins) as well as the Office of Health Equity to connect existing community health and health equity initiatives from across the organization while scaling system-wide efforts to identify and address disparities in health. Collaborating across the research, education and clinical mission arms of VUMC, OHE develops innovative models to improve health outcomes and address the social, cultural and/or economic conditions that impact health. Critical to OHE's work is partnerships with external partners including academic institutions, government and local community-based organizations in Nashville, surrounding counties and beyond.

To ensure that everyone has an opportunity to achieve and maintain optimal health, the OHE seeks to better understand and address health in individuals' social and economic context. We envision a collaborative and integrative health system that supports people everywhere to live their healthiest lives in thriving communities.

The OHE drives a systematic and strategic approach to health equity throughout VUMC by working across various disciplines and entities, both internal and external. Specifically, OHE focuses on education, population & community health and research.



\$112 million

FACULTY

16 Core

80 Members

PUBLICATIONS 413

EDUCATION AND TRAINING

UNDERGRADUATE, GRADUATE, POST-DOCTORAL FELLOWS, AND FACULTY SCHOLARS

Domestic and 1,092 International 1,092

Master in Public Health Global HealthTrack

Graduate Certificate in Global Health 23

Of the portfolio total, \$41 million are attributed to the research programs for Dr. James Crowe.





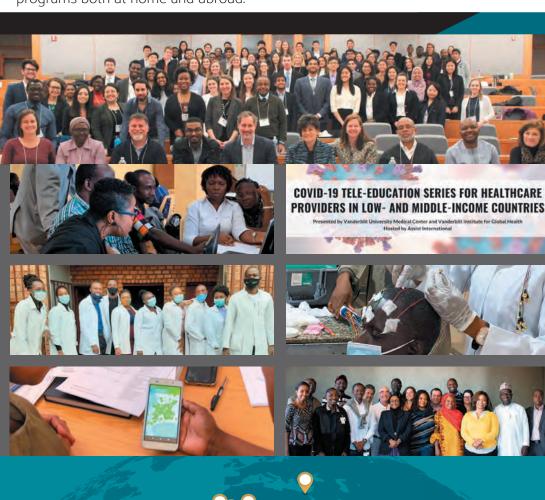


As a leader in international education and research, VIGH seeks to improve health and well being of people living in low-resource settings. Our work reflects this commitment.



Established in 2005, the Vanderbilt Institute for Global Health (VIGH) is a multi-disciplinary global health institute that amplifies Vanderbilt's expertise in research, education and service to improve the health and well-being of people around the world – especially those in low- and middle-income countries (LMICs). Its "center-without-walls" philosophy nurtures transdisciplinary partnerships among and within departments and schools on campus, and with partner institutions around the globe. VIGH strives to engender sustainable, scalable health and development programs in resource-limited settings through innovative multidisciplinary approaches rooted in strong academic research and training and global partnerships are at the heart of this mission.

VIGH faculty include appointments in Medicine, Infectious Diseases, Pediatrics, Health Policy, Neurology, Neurosurgery, Biomedical Informatics, Epidemiology, and the School of Nursing, who work directly at the Institute, numerous faculty members housed elsewhere across the campus as well as adjunct faculty from around the world. A global vision of "capacity building" is a core value of the Institute, and this is reflected in its strong commitment to training and research programs both at home and abroad.



GRANT PORTFOLIO

\$4.7 million

As members of the Vanderbilt Department of Biostatistics, we are statistical data scientists working on the forefront of biomedical research and contributing to the body of knowledge in medicine. Our faculty are independent researchers in the methods of biostatistics. Equally important, we collaborate with medical researchers, bringing statistical expertise along with curiosity about diseases, treatments, patient outcomes, and biology.

48 PRIMARY

9 WITH SECONDARY APPOINTMENT

12 WITH ADJOINT/ADJUNCT APPOINTMENT

STUDENTS

35 BIOSTATISTICS GRADUATE STUDENTS

POSTDOCTORAL RESEARCH FELLOWS





Programmatic Initiatives

Biostatistics Graduate Program. Vanderbilt's graduate program in Biostatistics emphasizes modern statistical thought and features statistical inference foundations, a topic of critical importance when interpreting data as scientific evidence. The program aims to strike a balance between theoretical rigor, methodological proficiency, and functional aptitude. There is a strong emphasis on reproducible, validated research and how to achieve this from a statistical perspective. The curriculum is nondenominational for the foundations of statistical inference (i.e., Frequentist, Bayesian, Likelihood), modern in its emphasis on computing and teaching statistical principles, and progressive focusing on communication skills. In FY20, four new students were admitted to the MS program, and four new students were admitted to the PhD program.

Biostatistics Cores. The Department of Biostatistics operates the Data Science Shared Resource for the Vanderbilt Ingram Cancer Center (VICC), the Vanderbilt Institute for Clinical and Translational Research (VICTR) Methods program (i.e., CTSA), the Statistics and Methodology Core for the Vanderbilt Kennedy Center for Research on Human Development, and the Biostatistics Collaboration Center (BCC), a recharge center. In addition, the department partners with clinical departments on formal collaboration plans. These plans create a formalized relationship between biostatisticians and investigators, funded by the clinical department, to nurture an environment where investigators and biostatisticians are developing new programs of research that are rigorous in design from inception.

Methodology/Data Science Research. Biostatistics faculty have secured a significant amount of external funding to develop statistical methods that improve analyses and study design. Funded research areas include methods to improve neuroimaging analyses, methods/designs to improve estimation with EHR data by combining error-prone data with validated subsamples, methods to perform pharmacokinetic studies with EHR data, methods for ordered categorical data, methods/designs to improve estimation by carefully selecting which individuals get more expensive measurements based on their longitudinal outcomes, and methods/designs to improve the preprocessing normalization of single-cell RNA sequencing (scRNA-seq).

Featured Events

Biostatistics Clinics

Biostatistics Clinics are open to all Vanderbilt and Meharry Medical College community members, offering consultation services in study design, measurement refinement, statistical analysis, and statistical interpretation of their results and journal articles. Clinic staff also assist investigators in navigating quantitative resources at Vanderbilt. During FY20, in-person sessions were conducted through March 2020 and remaining sessions were conducted virtually.

Weekly Seminar Series

The Department of Biostatistics hosts weekly seminars and workshops for researchers and trainees interested in applied statistics, statistical theory, epidemiology, health services research, clinical trials methodology, statistical computing, statistical graphics, and R. In FY20, the department hosted a total of 28 sessions in this series.

Statistical Computing Series

The department hosts a monthly hour-long program for practitioners of statistical computing

Bioinformatics Working Group

Members of this group meet on the second and fourth Mondays with a rotation of speakers

Causal Inference Working Group

Members of this group meet every other week.

IN THE STATE OF TH

Study finds zinc doesn't reduce mortality, other health risks, for heavy alcohol users living with HIV/AIDS

"Although low adherence likely influenced the outcome in the trial, zinc significantly lowered mortality risk among those who were adherent.", said the study's lead author, Matthew Freiberg, MD, MSc, professor of Medicine and Dorothy and Laurence Grossman Professor of Cardiology.

About half of health care workers positive for COVID-19 by serology have no symptoms

The IVY Research Network has completed initial studies evaluating the epidemiology of COVID-19 in health care workers and patients. "Our results suggest that screening health care workers for COVID-19 even when they don't have any symptoms could be important to prevent the spread of the virus within hospitals," said **Wesley Self, MD,** associate professor of Emergency Medicine at Vanderbilt University Medical Center and lead investigator for the IVY Network.

Martin to help guide Vanderbilt Institute for Global Health's education, training efforts

Marie Martin, PhD, MEd, assistant professor of Health Policy, was named associate director for Education and Training in the Vanderbilt Institute for Global Health (VIGH).

Vanderbilt Divinity and VA partner on doctor of ministry for chaplains

A new partnership between Vanderbilt Divinity School and Mental Health and Chaplaincy, a national program of the U.S. Department of Veterans Affairs' Veterans Health Administration, will relaunch a doctor of ministry program at Vanderbilt. The program aims to equip chaplains with best practices for providing high-quality, evidence-based care for persons with diverse psychosocial-spiritual needs. "A national movement has been underway the past few decades to include more spiritual care under the umbrella of good health care for our military population. I believe that chaplains are well suited to provide that assistance." said Keith Meador, MD, ThM, MPH, director of Mental Health and Chaplaincy Program.

Making Health Systems Age-friendly "When our team of clinicians, nurses, case

"When our team of clinicians, nurses, case managers, social workers, pharmacists, and therapists center care on the 4Ms, it helps ensure we are aligned with the patient's goals and doing everything we can to avoid preventable harm," said Maria Duggan, MD, clinical director of geriatric operations at Vanderbilt University Hospital.

3 Cities Saw COVID Cases Increase By Triple Digits Over 8 Weeks Despite Mask Mandates

Melissa McPheeters, PhD, MPH, research professor of Health Policy, is quoted in a Newsweek piece about some cities with mask mandates still seeing an increase in COVID cases.

A step toward cancer prevention

Wei Zheng, MD, PhD, and colleagues have applied polygenic risk scores (PRS), which summarize the combined effect of multiple genomic variants, to predict risk for common cancers including those of the prostate, breast and colon.

VUMC sources quoted in Wall Street Journal, New York Times, Washington Post, more

William Schaffner, MD, professor of Preventive Medicine, continues to be one of the most in-demand sources about COVID-19, influenza and other subjects in the news. Among the news organizations he has spoken with recently: The New York Times, CNN, Reuters, USA Today, Shape magazine Healthline.com, and Prevention magazine.

Heart failure study seeks to reduce hospitalizations

Avoiding unnecessary hospitalizations by providing self-care interventions to these patients could save the nation's health care system millions of dollars a year, said **Sean Collins, MD**, professor of Emergency Medicine at VUMC and principal investigator of the clinical trial, the results of which were published recently in JAMA Cardiology.

Behind the troubling rise of uninsured American kids

PBS NewsHour interviewed **Shari Barkin**, **MD**, **MSHS**, division chief of General Pediatrics at Monroe Carell Jr. Children's Hospital at Vanderbilt, about the decreasing number of children enrolled in Medicaid.

Announcements



Consuelo Wilkins, MD, MSCI, was elected to the National Academy of Medicine (NAM).



Sunil Kripalani, MD, MSc, SFHM, Professor of Medicine, was named new Director of the Vanderbilt Center for Health Services Research effective July 1, 2020.



Alvin Jeffery, PhD, FNP, was elected to the American Association of Critical-Care Nurses Board of Directors.



Melinda Aldrich, PhD, received Chancellor's Award for Research on Equity, Diversity and Inclusion.



Wesley Self, MD, MPH, was appointed Vice President for Clinical Research Networks and Strategy at VUMC.



Jeffrey Blume, PhD, received the Chancellor's Award for Research on Equity, Diversity and Inclusion.



Shari Barkin, MD, MSHS, division chief of General Pediatrics at Monroe Carell Jr. Children's Hospital at Vanderbilt, was honored with the 2019 Academic Pediatric Association (APA) Research Award.



Roger Dmochowski, MD, MMHC, was named Interim Vice President for Perioperative Services for Vanderbilt University Medical Center (VUMC). He assumed the role February 2020.





Dan Roden, MD, Senior Vice President for Personalized Medicine, and Daniel Munoz, MD, MPA, medical director of Quality for Vanderbilt Heart and Vascular Institute (VHVI), were named interim directors of the Division of Cardiovascular Medicine at Vanderbilt University Medical Center, effective February 2020. In addition, Dr. Muñoz, MD, was named the new executive medical director of the Patient Care Center (PCC) at Vanderbilt Heart and Vascular Institute (VHVI), effective January 1, 2021.





Russell Rothman, MD, MPP assumed the role of Director of the Institute for Medicine and Public Health (IMPH) and Sr. Vice President for Population and Public Health effective February 2020. Robert Dittus, MD, MPH was appointed Sr. Vice President and Chief Innovation Officer for the Vanderbilt Health Affiliated Network (VHAN).

Announcements



Melinda Buntin, PhD, Mike Curb Professor of Health Policy and chair of the Department of Health Policy named to COVID-19 Public Health Advisory Task Force at Vanderbilt.



Velma McBride Murry, PhD, was elected to the National Academy of Medicine (NAM) and received the Chancellor's Award for Research on Equity, Diversity and Inclusion.



William Schaffner, MD, professor of preventive medicine in the Department of Health Policy and professor of medicine named to COVID-19 Public Health Advisory Task Force at Vanderbilt and received Alexander Heard Distinguished Service Professor Award.



Marie Griffin, MD, MPH, professor of health policy, professor of medicine and director of the Master of Public Health program named to COVID-19 Public Health Advisory Task Force at Vanderbilt.



Edwin Trevathan, MD, MPH was appointed to the NINDS Advisory Council.



The Association for Clinical and Translational Science (ACTS) named **Chris Lindsell, PhD,** Professor of Biostatistics, Vanderbilt University Medical Center, as its president for 2020-2021.



Christianne Roumie, MD, MPH, was honored with the VUMC Biomedical Science Impact Award for her 2019 JAMA publication titled "Association of Treatment With Metformin vs Sulfonylurea With Major Adverse Cardiovascular Events Among Patients With Diabetes and Reduced Kidney Function."



Matthew Weinger, MD, MS was awarded the Denis M. O'Day Award for Team-Implemented Curriculum Reform and elected a fellow of the American Association for the Advancement of Science (AAAS) for distinguished contributions to the fields of human factors, clinician performance, and patient safety.



Stephen Patrick, MD, MPH, director of the Vanderbilt Center for Child Health Policy, has been awarded the fifth annual Gale and Ira Drukier Prize in Children's Health Research.



Jonathan Metzl, MD, PhD received the Chancellor's Award for Research.

Research and Discovery





VIGH awarded \$3 million for building research capacity in Nigeria and Mozambique

VIGH received a new research training grant and a renewal for an existing program to build HIV-focused research capacity with key partners in Nigeria and Mozambique.



Rosette Chakkalakal, MD, MHS received a five-year R01 grant from the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) of the NIH to continue to develop and evaluate the telehealth effectiveness.



Improving HIV care for new mothers in South Africa, mHealth Kate Clouse, PhD, MPH and team are testing a mHealth app designed to facilitate patient engagement with HIV care across the peripartum period.



VUMC faculty receive grant to expand LGBTQ voices in biomedical research

Center for Biomedical Ethics & Society researchers were awarded a grant from the National Human Genome Research Institute (NHGRI) of the National Institutes for Health (NIH) to explore LGBTQ+ perspectives on a range of issues related to biomedical research.



Soldier-Inspired Innovation Incubator for Discovering Research-Based Solutions (VRA)

Sean Collins, MD, MSCI, professor and executive vice chair of the Department of Emergency Medicine, director of the Center for Emergency Care Research and Innovation at VUMC and colleagues from across the campus collaborate on the 2020 Trans-Institutional Programs (TIPs).



Grant supports research on abnormal brain aging

With the aid of an \$18.2 million, five-year grant renewal from the National Institute on Aging, the Vanderbilt Memory and Aging Project (VMAP) will advance interdisciplinary research into abnormal brain aging and cognitive decline in older adults, with continuing emphasis on the role of blood flow changes in the heart and brain.





Office of Health Equity (OHE) announces the recipients of the first Health Equity Innovation Awards (HEIAs)

The awards, which were initiated to close gaps for individuals facing social, cultural, geographic, and economic barriers to health care, support innovative ideas and solutions aimed at advancing health equity.

Vanderbilt Symposium on Implementation Research in the Learning Health System

A 3-day virtual symposium, sponsored by the Center for Clinical Quality and Implementation Research (CCQIR) and VICTR/CTSA Learning Healthcare System showcased improvement and implementation research across a range of clinical areas. For all 21 posters and recordings of the keynote and panels please visit the CCQIR website.



Education and Training

Graduate Education Programs

Master of Public Health (MPH)
Master in Biostatistics (MS)
Doctor of Philosophy (PhD) in Biostatistics
Doctor of Philosophy (PhD) in Health Policy
Doctor of Philosophy (PhD) in Epidemiology
Graduate Certificate in Biomedical Ethics
Graduate Certificate Program in Health Equity
Graduate Certificate in Global Health



The Vanderbilt Institute for Medicine and Public Health supports wide array of faculty, trainees, and students across Vanderbilt seeking to translate knowledge into improved healthcare delivery and wellbeing. We are focused on removing barriers and bringing groups together to think innovatively, and rapidly take on new ideas to improve how healthcare is delivered locally, nationally and internationally.

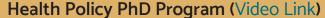
Public Health Graduate Programs

IMPH-supported Vanderbilt Graduate Programs in Health Policy, Global Health and Epidemiology. Video LINK



Master of Public Health (Video Link)

The Vanderbilt Master of Public Health (MPH) Program is a twoyear interdisciplinary program offered through the Vanderbilt University School of Medicine. Three tracks are offered: Epidemiology, Global Health, and Health Policy. Visit the program website for more information or watch the video.





Epidemiology PhD Program (Video Link)



Training Programs

Medical Residents, Fellows, and Postdoctoral Trainees:

- Vanderbilt Patient pRractice Outcomes Research in Effectiveness and Systems Science (PROgRESS) T32 Program
- · Nashville VA Quality Scholars Program

Junior Faculty and K12 Training Programs:

- Vanderbilt Emergency Medicine Research Training (VEMRT)
- VSCHoLARS K12: Vanderbilt Scholars in HIV and Heart, Lung, Blood and Sleep Research
- The Vanderbilt Scholars in T4 Translational Research (V-STTaR)
- Vanderbilt Learning Health System Scholar (LHSS)
- MAGEC Postdoctoral Fellowship Program







Preventing COVID-19 Infections: Healthcare Worker Exposure Response and Outcomes (HERO)

This research initiative seeks to engage healthcare workers across the nation to understand the impact of COVID-19 on their health and to evaluate whether hydroxychloroquine can prevent COVID-19 infections in healthcare workers at high risk of contracting this novel coronavirus.

Co-chairs of the HERO Steering Committee are **Russell Rothman**, **MD**, **MPP**, VUMC Senior Vice President for Population and Public Health, and Judith Currier, MD, professor of Medicine and chief of the Division of Infectious Diseases at UCLA Medical Center, Santa Monica.

Fellow steering committee member **Sean Collins, MD, MSCI**, professor and executive vice chair of the Department of Emergency Medicine at VUMC, will lead VUMC's engagement in the HERO study and will serve as the site's principal investigator.

HERO-TOGETHER study seeks healthcare workers who receive COVID-19 vaccine

"As we learn more about experiences from people who are vaccinated, we can answer questions to address this urgent public health crisis and learn how to best protect communities," said **Russell Rothman**, **MD**, director of the Vanderbilt Institute of Medicine and Public Health and co-chair of the HERO Research Program Steering Committee.

The Healthcare Worker Exposure Response & Outcomes (HERO) Registry launched

The Healthcare Worker Exposure Response & Outcomes (HERO) Registry launched this week, inviting U.S. healthcare workers to share clinical and life experiences in order to understand the perspectives and problems faced by those on the COVID-19 pandemic front lines. The HERO Registry is open to all healthcare workers, defined as anyone who works in a setting where people receive healthcare. This includes nurses, therapists, physicians, emergency responders, food service workers, environmental service workers, interpreters, transporters and others.

IMPH Responds to COVID-19

STAR Clinical Research Network and PCORnet COVID-19 Common Data Model

The Stakeholders, Technology, and Research (STAR) CRN, led by **Dr. Russell Rothman** as the STAR CRN Lead PI, launched a coordinated COVID-19 Common Data Model (CDM) at participating STAR CRN sites, in conjunction with the CDC and other PCORnet sites nationally.

The purpose of the COVID-19 CDM is to characterize a cohort of COVID-19 patients nationally and provide detailed information on the demographics and pre-existing conditions for members of the CDC COVID-19 Task Force. The COVID-19 CDM will include patients testing positive for COVID-19 or with a coronavirus-related ICD 10 code. Queries will be issued weekly by the PCORnet Coordinating Center (DCRI) to ensure updated and ongoing reports to the CDC COVID-19 Task Force.

Funded by PCORI and the People Centered Research Foundation and designed to provide support for patient centered outcomes research (PCORnet), the STAR CRN includes: (1) Vanderbilt University Medical Center (2) the Vanderbilt Healthcare Affiliated Network (3) Meharry Medical College, (4) UNC Health Care System, (5) Duke Health Care System, (6) Health Sciences of South Carolina, (7) Wake Forest Health Care, and (8) Mayo Clinic. In partnership with 8 additional Clinical Research Networks (CRNs), PCORnet has reach across the country with over 60 health systems engaged, reaching over 90 million patients.



Study to determine incidence of novel coronavirus infection in U.S. children begins Tina Hartert, MD, MPH, director

of the Center for Asthma and Environmental Sciences Research, vice president for translational research, the Lulu H. Owen Chair in Medicine and a professor of medicine

at the VUMC, leads nationwide Human Epidemiology and RespOnse to SARS-CoV-2 (HEROS) surveillance study to define the magnitude of SARS-CoV-2 infection in the US population.

COVID-19 Projects and Addressing COVID-19 in Population Health





The IVY Network COVID-19 Research

The Influenza Vaccine Effectiveness in the Critically III (IVY) Network has launched a series of observational studies evaluating COVID-19. The IVY Network is a 16-site consortium of academic medication centers in the US funded by the CDC to conduct research on acute viral respiratory infections. COVID-19 research being conducted by

the network includes: investigating the prevalence of and risk factors for seroconversion among frontline healthcare workers; evaluating the risk of clinical deterioration in the weeks following a positive SARS-CoV-2 test; characterizing COVID-associated cardiomyopathy; detailing the clinical epidemiology and proving real-time surveillance data to CDC. The IVY Network collaborates closely with CDC and is led by VUMC, which serves at the Clinical Coordinating Center, Data Coordinating Center, and single IRB. Wesley H. Self, MD, MPH, Associate Professor of Emergency Medicine, is the PI of the IVY Network. Additional Vanderbilt investigators include H. Keipp Talbot, Todd W. Rice, Christopher J. Lindsell, Carlos G. Grijalva, Natasha Halasa, Sean P. Collins, Adrienne Baughman, and Bo Stubblefield.



Members of our study team beginning the IVY Network COVID Healthcare Worker Study. From left to right are: Ian Jones, Andrea Fletcher, KeippTalbot, and Adrienne Baughman.

COVID infections in health workers often go undetected: study

Many COVID-19 infections among health care workers go undetected, likely because many people infected with SARS-CoV-2, the virus that causes COVID-19, have mild or no symptoms, a study led by **Wesley Self, MD, MPH**, shows.

The ORCHID Trial-Outcomes Related to COVID-19 treated with Hydroxychloroquine among In-patients with symptomatic Disease

On April 2, 2020, the ORCHID trial (Outcomes Related to COVID-19 treated with Hydroxychloroguine among In-patients with symptomatic Disease) launched with its first enrollment at VUMC. This trial is investigating the effectiveness and safety of hydroxychloroquine for the treatment of COVID-19 among hospitalized adults. ORCHID is a randomized, placebocontrolled clinical trial that will provide high-quality data on the effectiveness and safety of hydroxychloroguine for the treatment of COVID-19. The trial is being conducted by the Prevention and Early Treatment of Acute Lung Injury (PETAL) Clinical Trials Network, funded by the National Heart, Lung and Blood Institute (NHLBI). This multicenter trial will be launched at up to 44 centers in the United States. Wesley H. Self, MD, MPH, Associate Professor of Emergency Medicine at VUMC, is the PI of the ORCHID trial. Additional Vanderbilt investigators include Todd W. Rice, Matthew W. Semler, Jonathon D. Casey, Sean P. Collins, Christopher Lindsell, and Bo Stubblefield.

VUMC awarded \$34 million to lead nationwide convalescent plasma study

Vanderbilt University Medical Center has been awarded a one-year, \$34-million grant by the National Center for Advancing Translational Sciences, part of the National Institutes of Health, to conduct a nationwide study of "convalescent plasma" as a treatment for COVID-19. Todd Rice, MD, MSc, and Wesley Self, MD, MPH, will lead the study, which will recruit 1,000 participants in approximately 51 sites across the country.



About half of health care workers positive for COVID-19 by serology have no symptoms Wesley Self, MD, MPH and Bo Stubblefield, MD, lead IVY Research Network epidemiology studies of COVID-19 in health care workers and patients. "We are continuing to study COVID-19 in front-line health

care workers across the country to better understand what may be done to decrease their risk of infection, such as using specific types of personal protective equipment", Dr. Stubblefield said.

Investigational glaucoma drug studied to prevent respiratory distress in COVID-19 patients

Wesley Self, MD, MPH, an emergency medicine physician at VUMC and collaborators are evaluating razuprotafib, a drug used to treat glaucoma, in a new randomized, investigational trial for the prevention and treatment of acute respiratory distress syndrome (ARDS) in adult patients with moderate to severe COVID-19.

COVID-19 Projects and Addressing COVID-19 in Population Health Using Big Data to Understand COVID-19





Official ORCHID trial results will tell us effectivity of hydroxychloroquine in acute COVID-19 cases

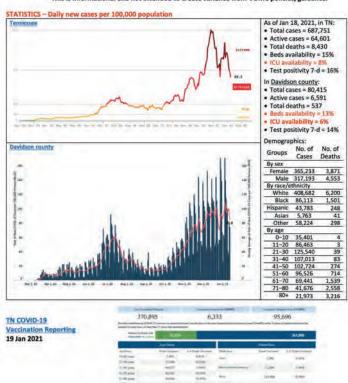
"This particular trial occurred at a time when every single skid was greased, everyone was working together to solve a common

problem, so all of the typical slowdowns in clinical trials were avoided," **Chris Lindsell, PhD**, a member of the ORCHID trial team, a biostatistician, co-director of the HEAlth Data Science (HEADS) Center and a professor of biostatistics at Vanderbilt said. "The sense of teamwork was really strong, and it is extraordinary what can be accomplished in a very short period of time when people do that. Typically, what would have taken a year or more in start-up time took 14 days."

Vanderbilt Epidemiology Center COVID-19 Weekly Summaries

Each week, the Vanderbilt Epidemiology Center faculty summarizes the most clinically relevant research about SARS-CoV-2 and COVID-19 as a service to the Vanderbilt University Medical Center.

Summary of Major Literature Related to COVID-19 (Jan 5-19)
Led by Loren Lipworth (Epidemiology) and Holly Algood (Infectious Diseases),
with contribution from S Sudenga, D Yu, DOM
*This is informational and not intended to create variance from VUMC policies/guidance



Vanderbilt Department of Biostatistics

Members of the Department of Biostatistics are engaged with multiple projects related to the COVID-19 pandemic. Predictive modeling work includes adaptive modeling for daily updates to the clinical enterprise on predicted bed need, SEIR forecasting for Tennessee to model impact of policy changes on new-case rate as well as state-wide hospital bed need, and patient-level modeling. Clinical trials include a pragmatic trial of prone vs. supine positioning, along with trials of candidate therapies (hydroxychloroquine, convalescent plasma), surveillance studies include a within-household transmission study, multisite ICU surveillance of COVID patients, multi-site surveillance of healthcare worker seroconversion rates, and stratified random sampling to identify a COVID+ cohort for CDC surveillance and chart review. Finally, department members are engaged with developing statistical analysis methods specific to COVID analysis.



Multinational consortium reports COVID-19 impact on cancer patients

Newly released data on treatment outcomes of people with cancer diagnosed with COVID-19 reveal a racial disparity in access to Remdesivir, an antiviral drug that has been shown to shorten

hospital stays, and increased mortality associated with dexamethasone, a steroid that has had the opposite effect in the general patient population. Vanderbilt coauthors on the study included Samuel Rubenstein, MD; Brendan Lee; Brian Rini, MD; Sanjay Mishra, PhD; Chih-Yuan Hsu, PhD; Yu Shyr, PhD; and Jeremy Warner, MD.



VUMC team creates COVID-19 research registry

"Over the next year there will be an urgent need to understand the biological underpinnings of COVID, involving researchers from almost every medical specialty," said the leader for the registry project, **Josh Peterson, MD, MPH**, professor of Biomedical Informatics. "And one

big-data approach is to aggregate cases from the EHR and curate key outcomes and phenotypes within the data, to make it easier for researchers to conduct more complex analyses."

Health Policy Responds to COVID-19



MPH students dive in to support COVID-19 response

Graduates from Vanderbilt's Master in Public Health (MPH) program didn't plan to become front-line soldiers against the COVID-19 global pandemic, but several have found themselves putting their training - and their career goals - front and center.



Tennessee's uninsured children have doubled since 2019 and 2 in 5 live with food insecurity, poll finds

"The fact that 1 in 10 parents cannot afford food for their children and a similar number are uninsured should

be a wakeup call to us all as we enter the holiday season – we have to do more," said **Stephen Patrick, MD, MPH**, director of the Vanderbilt Center for Child Health Policy.

Awareness lags about dangers in the home, even during COVID-19

"Parents have not gotten the message that leftover opioids in their homes are dangerous. Providers and pharmacists need to remember to give clear instructions to patients on how to dispose of opioids, and policymakers need to enhance efforts to promote and enable safe disposal," said **Stephen Patrick, MD, MPH**, a neonatologist and director of The Center for Child Health Policy at Vanderbilt University Medical Center and Monroe Carell Jr. Children's Hospital at Vanderbilt

Well-being of Parents and Children During the COVID-19 Pandemic: A National Survey

Stephen Patrick, MD, MPH and colleagues study how COVID-19 is affecting the health, well-being, and food security of U.S. families with children.



What does health care look like after COVID-19 pandemic?

Two issues about the medical system after the current wave are particularly important: What type of organizations will be available to treat patients a few months from now? And

how will those patients be most effectively served?



Vanderbilt Health Policy COVID-19 Model Finds Evidence of Flattening Curve, Recommends Distancing Policies Continue



Vanderbilt team develops COVID-19 predictive model for Tennessee

"Our team has access to Medicare data related to the specific geographic locations of health care providers and patient flows from ZIP codes to hospitals," John Graves,

PhD said. We've been able to pivot and quickly take that data to this new COVID-19 model."

New analysis finds association between masking requirements and slower growth in COVID-19 hospitalizations

In a new analysis, researchers from the Department of Health Policy have found a relationship between the growth of hospitalizations and masking requirements put in place across the state."



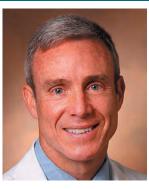
Expanding Ventilator Capacity-The Need for State and Regional Planning

As expert estimates reveal that US hospitals may face an unprecedented need for ventilators as the coronavirus outbreak ramps up, Laura Keohane, PHD at Department of Health Policy, explores the

need for better state and regional planning.

COVID-19 Projects and Addressing COVID-19 in Population Health





Post intensive-care: Why some COVID-19 patients may face problems even after recovery

"ICU patients need "to have humans around to orient them, to calibrate them, to touch them, to look in their eyes, and make them understand what's happening," Dr. E. Wesley Ely, a professor of medicine and critical care at

Vanderbilt University, said. "But that's exactly what the COVID patients won't get because they're all being isolated."

COVID-19 and CIBS Center in the News

The Critical Illness, Brain Dysfunction, and Survivorship (CIBS) Center is studying the cognitive function and physical outcomes of COVID-19 survivors to understand the relationship between COVID-19 and long-term health from the pandemic. It may be that the dementia seen after critical illness.

Covid-19 Might Lead To A 'Mental Health Pandemic'

The effects of Covid-19 are here to stay, including in the brain, at least according to a new study by Mario Mazza and colleagues in the journal Brain, Behavior, and Immunity. Wes Ely, MD and the VUMC Critical Illness, Brain Dysfunction, and Survivorship (CIBS) Center collaborators study the cognitive function and physical outcomes of COVID-19 survivors to unravel the relationship between COVID-19 and long-term health. Learn more about all CIBS studies and their extensive press coverage.



New study examines coronavirus transmission within households

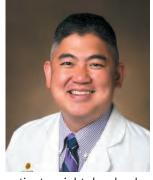
The study funded by the Centers for Disease Control and Prevention (CDC) examines the transmission of SARS-CoV-2, the virus that causes

COVID-19, within households in Nashville. This is one of few longitudinal studies in the country that will examine coronavirus infections among close contacts.



VUMC uses computerized mannequins to teach proper technique for caring for COVID patients

Arna Banerjee, MD, associate professor of Anesthesiology/Critical Care and director of CELA and the Center for Experiential Learning and Assessment (CELA) deploy unique resources for training and innovation to support advanced COVID-19 patient care.



Study to explore how COVID affects cognition over time

"There is emerging evidence that COVID-19 affects the brain and leads to a wide range of neurological complications such as delirium. Because it affects the brain and causes delirium, we hypothesize that a disproportionate number of

patients might develop long-term cognitive impairment, PTSD and depression," said Jin Han, MD, MSc, associate professor of Emergency Medicine and principal investigator of the study.



New Vanderbilt survey shows impact of COVID-19 on mental health

Anxiety, depression, isolation are just a few of the mental tolls people are dealing with right now. "For most of us who are oriented around relationships with other people who draw energy from other people and interaction with others this isolation

has been very challenging," **Dr. Jim Jackson**, a professor of medicine and psychiatry at VUMC, said.



Two experts discuss parallels with new COVIDrelated syndrome

"It's important for all of us to be patient and to be thoughtful in thinking about a new illness," Natasha Halasa, MD, MPH, associate professor of pediatrics at VUMC, said. "As scientists, we need to work together, to collaborate, and to approach

these ideas in a multidisciplinary manner."

Study to track if COVID can spread during minimally invasive surgery

Recent studies suggest that many children infected with the SARS-CoV-2 virus do not show symptoms of COVID-19. If correct, they pose a significant risk of spreading the virus while undergoing common minimally invasive surgical procedures such as removal of lung nodes, hernia repair and laparoscopic appendectomy.

Addressing Health Equity and COVID-19

Confronting Racial Inequities in Medical Education

Vanderbilt University Medical Center's Office of Health Equity's plan for confronting racial inequities provides a guide for discussion and implementation of changes at the Medical Center.

The Office of Health Equity offered a panel discussion on how racism creates and perpetuates health inequities. Racism, Health and Health Care: Where do we go from here?

Resources for enhancing community engagement and health equity in clinical research are available through the Office of Health Equity and VICTR, including a variety of training modules developed by Community Engaged Research Core (CERC) faculty, staff and community partners specifically for academic researchers



Griffith raising awareness about men's health equity and structurally based risks for COVID-19

Reports of COVID-19 deaths do not often provide a full explanation of patterns, tending to focus on people's race or ethnicity, where they lived and with whom, whether they were affluent or poor, elderly

or young, women or men—one factor at a time. According to **Derek Griffith, PhD**, professor of medicine, health and society and founding director of the Center for Research on Men's Health, such information may more accurately indicate risk for contracting and dying from COVID-19 than how people behave.



Eliminating Race as a Variable in Estimating Kidney Function

"Through this project, we hope to challenge the medical community to re-examine the inappropriate use of race as a proxy of biologic or genetic difference and its resulting impact on patients, including the unjust diversion of

attention and resources away from Black patients," **Sophia Kostelanetz**, **MD**, **MPH**, an instructor in the Department of Medicine at VUMC, said on behalf of the group. She is co-leader of the Nashville Chapter of the Campaign Against Racism.



Initial COVID-19 testing data show impact in Nashville's minority communities

"It's critical to draw awareness to the disparity in communication and access to treatment as well as the economic, cultural and societal factors that impact ability to navigate care. We're zeroing in on disaggregating

the data by race, ethnicity and language because we can't address inequities if we don't know who they are," said **Consuelo Wilkins, MD, MSCI**, vice president for Health Equity for VUMC, associate dean for Health Equity at Vanderbilt School of Medicine and executive director of the Meharry-Vanderbilt Alliance.

Equitable Pandemic Preparedness and Rapid Response: Lessons from COVID-19 for Pandemic Health Equity

Early data assessing the primary language of those who received COVID-19 tests at Vanderbilt University Medical Center, and tested positive, illustrates the disproportionate impact the pandemic is having on racial or ethnic communities. **Consuelo Wilkins MD, MSCI and colleagues, Elisa Friedman, MS, Sunil Kripalani, MD, MSC**, and others across VUMC, are working to disaggregate data by language as well as race, ethnicity, ZIP code and insurance status about who has been tested positive, hospitalized or deceased.



The Need for a Structurally Competent Health Care System

"COVID-19 is a disease of communities and networks, a pathogen that floats along the infrastructures of human relations. Only by better strengthening networks and supporting all communities will anyone, and everyone,

return to well-being." **Jonathan Metzl, MD, PhD,** Frederick B. Rentschler II Professor of Sociology and Medicine, Health, and Society stated in his recent publication.

Jonathan Metzl, MD,PhD and colleagues at the Department of Medicine, Health, and Society present a suite of new course content on COVID-19 and Racial Justice for the fall 2020 semester.



Demographics of Gastric Cancer Risk Underscore the Need for Screening

New findings point to the severest impacts by race and ethnicity, anatomic site. Non-white Americans, especially Asian Americans, are at disproportionately higher risk of developing noncardia gastric cancer (the most common type of gastric cancer globally) compared to non-Hispanic white Americans.



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