

Ongoing news about
MEHARRY
RESEARCH



The Research Digest

ADVANCING RESEARCH AND INNOVATION

From the Meharry Medical College Office for Research and Innovation

| ANNOUNCEMENTS | THE VP'S COLUMN | FUNDED INVESTIGATORS |
|--|---|--|
| <div>Research Resources:<ul style="list-style-type: none">Learn about the Office for Research & Innovation at meharryresearch.org. You can find information about our structure, regulatory committees, grant submission requirements, core facilities, and more.Have a research administration question? Wondering if Meharry has internal funds for pilot research projects? Lost the link to extend your VUNet ID? Check for Quick Answers and more on ResearchPoint. Log in with your Meharry credentials.Grant development "Chalk-talk" sessions available to junior investigators to help develop their specific aims. Request your session at VP-Research@mmc.eduCutting edge imaging systems at CRISALIS:<ul style="list-style-type: none">⇒ Beckman Coulter CytoFLEX S Flow Cytometer⇒ Luminex Amnis CellStream Flow Cytometry System⇒ Thermo Fisher EVOS fluorescent microscope⇒ Keyence BZ-X700 microscopeVisit the CRISALIS website for details, other equipment, and services.</div> <div>Development Opportunities:<ul style="list-style-type: none">Edge for Scholars' Mock NIH Grant Reviews While registration for the June grant pacing workshops has passed, Edge for Scholars has ongoing grant improvement opportunities, including an NIH-style, mock grant review for upcoming K and R submission. Find this and more here. Open to Meharry researchers at no cost.</div> | <div><p>Dear Meharrians:</p><p>As 2021 concluded through another year of the pandemic, we continued to move forward with the utmost safety, pragmatic optimism and unrelenting drive. We enhanced the research experience and learning environment of our students and made contributions for the benefit of communities we serve.</p><p>We initiated the first "Annual Recognition Awards" to recognize the exceptional success of five outstanding researchers. Highlighted in this issue, their dedication, ingenuity, and continued hard work contributed remarkably to the growth of Meharry. The leadership of these five faculty members and their teams, with the support of their department Chairs and Dean, continued to extend the frontiers of knowledge while educating and training the next generation of scholars.</p><p>Also in this issue, Dr. Virginia Brennan, Editor of Meharry's Journal of Health Care for the Poor and Underserved, gives us a peek into the journal's manuscript acceptance rate for 2021, its continuing impact nationally, and a summary of an article from the February 2022 issue. The JHCPU continues to be an exemplar of Meharry's efforts in scholarship and research for improving the health of those that need it most.</p><p>I am grateful to our researchers and Meharry community for all your hard work, resilience and dedication to advancing science and the learning experience. We have much to look forward to tap the potential of unparalleled technology and scientific opportunities, with globally networked experts and leaders. I invite you to lead with us in our mission to create knowledge by catalyzing the full force of collective action and team work in the year ahead.</p><p>With kind regards,</p><p>Anil Shanker, M.S., Ph.D. Senior Vice President for Research and Innovation Professor of Biochemistry, Cancer Biology, Neuroscience and Pharmacology</p></div> <div>SPOTLIGHT</div> <div>Office for Research & Innovation Annual Recognition Awards<p>At the end of 2021, the Office for Research & Innovation reflected on another year full of challenges faced and overcome by Meharry researchers and recognized the exceptional success of five outstanding faculty. Their dedication, ingenuity, and continued hard work contributed remarkably to the growth of Meharry last year. 2021's Recognition Awards were for competitive, extramural funding for research as lead PI and notable peer-reviewed publication accomplishments during the past 12 months. These faculty persistently continued to extend the frontiers of knowledge while educating and training the next generation of scholars.</p><ul style="list-style-type: none">Community Science Researcher of 2021:<div><p>Patricia A. Matthews-Juarez, MSW, PhD SVP, Office of Strategic Initiatives and Innovation Professor, Department of Family & Community Medicine</p><p>Dr. Matthews-Juarez's funding results from her collaborative transdisciplinary and translational science teamwork in the epigenetics and social determinants of chronic disease, health equity, and disparity. She works passionately to bring social change and equity to vulnerable populations across the globe, emphasizing primary care education, community engagement, maternal health, patient-family centered care for chronic disease & pediatric HIV, STEM capacity building with HBCUs, and healthcare delivery across the lifespan in the US and Africa.</p><p>– Total 2021 extramural funding: \$8,296,541</p></div></div> | <div>Congratulations to all Meharry investigators who have received extramural funding!</div> <div>Biochemistry, Cancer Biology, Neuroscience and Pharmacology Adunyah, Samuel E. Sapp, Nicklas Shanker, Anil Son, Deok-Soo Stewart, LaMonica V. Balasubramaniam, Muthukumar</div> <div>Center for AIDS Health Disparities Research Dash, Chandranu Dong, Xinhong Liu, Bindong Popik, Waldemar Pandhare, Jui</div> <div>Center for Molecular & Behavioral Neuroscience Charlton, Clivel G.</div> <div>Central Administration Samuels, Adrian D.</div> <div>Dental Dean's Office Farmer-Dixon, Cherae</div> <div>Family & Community Medicine Collins, Millard Cooper, Robert L. Juarez, Paul D. Matthews-Juarez, Patricia Morelli, Vincent Sanderson, Maureen</div> <div>Graduate Dean's Office Motley, Evangeline D. Woods, Letha</div> <div>Graduate Studies Actkins, Ky'Era Pratap, Siddharth Rayford, Kyla Sakwe, Amos M.</div> <div>Internal Medicine Berthaud, Vladimir Erves, Jennifer C. Fremont, Richard Singh, Rajbir Smoot, Duane</div> <div>Medical Dean's Office Forbes, Digna S.</div> <div>Microbiology, Immunology, and Physiology Borza, Dorin Bogdan Chaudhuri, Minu Liu, Bindong Nde, Pius N. Villalta, Fernando</div> <div>(continued...)</div> |

- The Postdoctoral Program at the Novartis Institutes for BioMedical Research is currently recruiting Postdoctoral Fellows for its Innovation Fellowship track. These are competitive, on-site, full-time positions based at Novartis labs in Cambridge MA (US), and in Basel, Switzerland. Find more details [here](#) on the program and how students can apply. The call for applications is open until April 14th in Cambridge (US) and April 21st in Basel (CH).
- The AIM-AHEAD Coordinating Center Southeast Hub, led by Meharry Medical College, invites you to participate in an interactive “Community Building Brown Bag Webinar” on March 31, 2022 (12 pm – 1 pm CST). This virtual, interactive webinar will host an open dialogue with the community for advancing health equity through artificial intelligence and machine learning (AI/ML). The event will highlight AIM-AHEAD program aims, Southeast Hub activities and discuss opportunities for your involvement in this national effort. [The AIM-AHEAD consortium](#) was established by the NIH with a vision to build a national consensus on advancing health equity and diversity in the AI/ML workforce. [Registration and attendance](#) for the webinar is completely free.
- [Applications for a unique Robert Wood Johnson Foundation leadership program](#)—designed for teams of community leaders and researchers—are open until May 4. [Interdisciplinary Research Leaders](#) focused on dismantling structural racism and health inequity will embark on a transformational journey using action-oriented, community-engaged research to help build a Culture of Health, one that enables everyone in America to live longer, healthier lives.

SPOTLIGHT

- **Behavioral Science Researcher of 2021:**



(Robert) Lyle Cooper, PhD, MSSW
Associate Professor, Department of Family & Community Medicine

Dr. Cooper’s awards focus on drug-use harm reduction, HIV/infectious disease prevention & treatment, and training for providers of those services. Funded by SAMHSA, CDC, NIH, and HRSA, and through consistent partnership with the TN Departments of Health and Mental Health and Substance Abuse Services, Dr. Cooper focuses on treating underserved, uninsured, unhoused, LGBTQ+, and rural populations. Recent funding through the NIAID and CDC supports HIV prevention implementation studies (PrEP, test & treat) in Nashville, Memphis, and several rural east Tennessee counties and will guide the TDH’s PrEP linkage efforts across the state.

– **Total 2021 extramural funding: \$3,465,544**

- **Basic Science Researcher of 2021:**



Chandravanu Dash, PhD, MSc
Professor, Center for AIDS Health Disparities Research & Department of Biochemistry, Cancer Biology, Neuroscience and Pharmacology

The Dash lab studies HIV-1 replication and pathogenesis. Through multiple R01s, his group is dissecting the mechanisms HIV-1 integration, exploring how drugs of abuse contribute to HIV-1 infection, and studying the inhibitory role of cellular miRNAs on HIV. He is PI of the Enhancing Virology Training summer program (ENVIT) and Co-PI of the microbial pathogenesis training grant. Dr. Dash’s success has supported renovating the BSL2 and BSL3 laboratories in the CAHDR and West Basic Science Bldg.

– **Total 2021 extramural funding: \$1,740,983**

- **Researcher with the highest impact factor publication in 2021:**



Dorin B Borza, PhD
Assistant Professor, Department of Microbiology, Immunology and Physiology

[Laminin-521 is a Novel Target of Autoantibodies Associated with Lung Hemorrhage in Anti-GBM Disease.](#) *Journal of the American Society of Nephrology*, 2021; 32:1887-1897. Antiglomerular basement membrane (anti-GBM) disease is a rapidly progressive kidney and lung disease. Dr. Borza and nephrologists from Beijing University detected autoantibodies to laminin -521, a ubiquitous scaffolding protein, identifying a major human autoantigen in anti-GBM disease. These autoantibodies were significantly associated with lung hemorrhage, hemoptysis, and smoking, and may be a crucial target for anti-GBM disease therapy.

– **JASN Impact factor: 10.121**

- **Researcher with most publications in 2021 (first or last author):**



Jennifer Cunningham-Erves, PhD, MPH, MAEd, MS, CHES
Associate Professor, Department of Internal Medicine

Dr. Jennifer Cunningham-Erves is a behavioral scientist who seeks to increase HPV vaccination among adolescents, cancer clinical trial participation among African Americans and Latinos, and COVID-19 vaccination among African Americans and Latinos. She works to identify strategies to engage the community in research across the translational continuum.

– **Five first author publications:**

[Human Vaccines & Immunotherapeutics](#)
[Journal of Community Health](#)
[Cancer Causes & Control](#)
[Translational Behavioral Medicine](#)
[American Journal of Health Education](#)

Scientific endeavors cannot be accomplished alone. The Office for Research & Innovation acknowledges the contributions of the teams of researchers, clinical staff, administrators and students working with the faculty listed above.

- Obstetrics & Gynecology**
Aguinaga, Maria del Pilar
 - Oral Biology & Research**
Gangula, Pandu R.
 - Pathology, Anatomy & Cell Biology**
James, Samuel
 - Pediatric Medicine**
Wyche-Etheridge, Kimberlee
 - Professional Medical Education**
Regina Offodile
 - Psychiatry**
Heckman, Bryan
Williamson, Lloyd
 - Surgery**
Miller-Hughes, Stephania
 - School of Applied Computational Sciences**
Cao, Aize
- ***
- Please submit a [REDCap form](#) to share news of your awards with us. We look forward to celebrating your achievements!*
- More Opportunities:**
- Meharry is launching a Visiting Scientists Program with the Icahn School of Medicine at Mount Sinai (ISMMS), NY. This program will host several faculty members from Meharry for a sabbatical at ISMMS from June to August 2022.
- Financial support provided
 - Access to the ISMMS [Dean's CoREs](#)
 - Mid- to senior-level ISMMS faculty serve as laboratory hosts
- We are interested in faculty who will generate strong preliminary data leading to collaborative external funding applications in the following areas:
- Neuroscience/neurology (Alzheimer’s disease)
 - Cancer (triple-negative breast cancer)
 - Microbiology (Zika virus, HIV, Trypanosoma cruzi)
 - Inflammatory bowel disease, Crohn’s disease, ulcerative colitis
 - Genetics/Genomics (genetic counseling)
- Interested early-stage faculty must prepare a 2-page written research plan in collaboration with a faculty member at ISMMS. Please submit the letter of intent to [Jared Elzey](#), for consideration by April 4, 2022.

- **Meharry continues recruitment for the SISTER study** to find ways to help African American women with diabetes eat and live healthier, and to help health care professionals provide better diabetes care. Study participants will receive, among other things, **free nutritionist support, diabetes education materials, and healthy snacks.** They will also receive **compensation for time and travel.** To learn more about the study and to find out if you are eligible, click [here](#).
- Meharry researchers invite you to join the **Meharry Research Partners database** for opportunities to volunteer in research studies aimed at tackling the disproportionate disease burden among the medically underserved and ethnic minorities. To learn more, click [here](#).
- **Survey on pediatric daycare by the Department of Pediatrics to gauge the need and interest among Meharry community.** To complete the survey, click [here](#). Contact [Dr. Xylina Bean](#) or [Dr. Dontal Johnson](#) with questions.

Want More? Check out some other Meharry-related Newsletters!

[The Digest](#), from the Office of Communications & Marketing

[Connections](#), from the School of Applied Computational Sciences

[News & Updates](#), from the Meharry-Vanderbilt Alliance

MORE INFORMATION?

[Meharry Research OfRI Services and Support Unit](#)
[Meharry Community Engagement Core](#)
[Meharry's research history](#)
[COVID-19 lab safety guidelines](#)
[ResearchPoint](#)
[Yammer](#)

PUBLICATION HIGHLIGHTS

Want your publications featured in the Publication Highlights? Please complete this [REDCap survey](#) to share the information with us!

From the Annual Recognition Awards:

Dorin Borza:

Shen CR, Jia XY, Luo W, Olaru F, Cui Z, Zhao MH, Borza DB. [Laminin-521 is a Novel Target of Autoantibodies Associated with Lung Hemorrhage in Anti-GBM Disease](#). J Am Soc Nephrol. 2021 Aug;32(8):1887-1897. doi: 10.1681/ASN.2020101431. Epub 2021 Apr 23. PMID: 33893224; PMCID: PMC8455270.

Jennifer Cunningham-Erves:

Cunningham-Erves J, Mayer CS, Han X, Fike L, Yu C, Tousey PM, Schlundt DG, Gupta DK, Mumma MT, Walkley D, Steinwandel MD, Edwards KM, Lipworth L, Sanderson M, Shu XO, Shrubsole MJ. [Factors influencing intent to receive COVID-19 vaccination among Black and White adults in the southeastern United States, October - December 2020](#). Hum Vaccin Immunother. 2021 Nov 30:1-38. doi: 10.1080/21645515.2021.1984134. Epub ahead of print. PMID: 34847822.

Cunningham-Erves J, Stewart EC, Duke J, Alexander L, Davis J, Wilus D, Wyche-Etheridge K, Miller ST. [Use of Community Listening Sessions to Disseminate Research Findings to Past Participants and Communities](#). J Community Health. 2021 Oct 8:1–10. doi: 10.1007/s10900-021-01038-4. Epub ahead of print. PMID: 34625863; PMCID: PMC8500252.

Cunningham-Erves J, Mayo-Gamble TL, Hull PC, Lu T, Barajas C, McAfee CR, Sanderson M, Canedo JR, Beard K, Wilkins CH. [A pilot study of a culturally-appropriate, educational intervention to increase participation in cancer clinical trials among African Americans and Latinos](#). Cancer Causes Control. 2021 Sep;32(9):953-963. doi: 10.1007/s10552-021-01449-7. Epub 2021 May 27. PMID: 34046808; PMCID: PMC8567194.

Cunningham-Erves J, Stewart E, Duke J, Akohoue SA, Rowen N, Lee O, Miller ST. [Training researchers in dissemination of study results to research participants and communities](#). Transl Behav Med. 2021 Jul 29;11(7):1411-1419. doi: 10.1093/tbm/ibab023. PMID: 33823019; PMCID: PMC8320879.

Cunningham-Erves J, Campbell L, Barlow C, Barajas C, Mayo-Gamble T, Perry M, Johnson G. [HPV Associated Cancers and Disparities: Engaging African American Men to Develop a Culturally-Appropriate Program that Addresses their Needs](#). Am J Health Educ. 2021;52(4):194-206. doi: 10.1080/19325037.2021.1930614. Epub 2021 Jun 10. PMID: 34239655; PMCID: PMC8258611.

Recent Meharry Research Publications (first or last author)

Kanagasabai T, Li G, Shen TH, Gladoun N, Castillo-Martin M, Celada SI, Xie Y, Brown LK, Mark ZA, Ochieng J, Ballard BR, Cordon-Cardo C, Adunyah SE, Jin R, Matusik RJ, Chen Z. [MicroRNA-21 deficiency suppresses prostate cancer progression through downregulation of the IRS1-SREBP-1 signaling pathway](#). Cancer Lett. 2022 Jan 28;525:46-54. doi: 10.1016/j.canlet.2021.09.041. Epub 2021 Oct 2. PMID: 34610416.

Sampath C, Raju AV, Freeman ML, Srinivasan S, Gangula PR. [Nrf2 attenuates hyperglycemia-induced nNOS impairment in adult mouse primary enteric neuronal crest cells and normalizes stomach function](#). Am J Physiol Gastrointest Liver Physiol. 2022 Jan 27. doi: 10.1152/ajpgi.00323.2021. Epub ahead of print. PMID: 35084215.

Gillyard T, Davis J, Parham I, Moss J, Barre I, Alexander L, Cunningham-Erves J. [Psychosocial Stressors and Coping Strategies Among African Americans During Early Stages of the COVID-19 Pandemic: a Qualitative Study](#). J Racial Ethn Health Disparities. 2022 Jan 24:1–14. doi: 10.1007/s40615-022-01229-2. Epub ahead of print. PMID: 35072945; PMCID: PMC8785694.

Kruzel-Davila E, Bavli-Kertselli I, Ofir A, Cheatham AM, Shemer R, Zaknoun E, Chornyy S, Tabachnikov O, Davis SE, Khatua AK, Skorecki K, Popik W. [Endoplasmic reticulum-translocation is essential for APOL1 cellular toxicity](#). iScience. 2021 Dec 31;25(1):103717. doi: 10.1016/j.isci.2021.103717. PMID: 35072009; PMCID: PMC8762391.

Arun A, Rayford KJ, Cooley A, Rana T, Rachakonda G, Villalta F, Pratap S, Lima MF, Sheibani N, Nde PN. [Thrombospondin-1 expression and modulation of Wnt and hippo signaling pathways during the early phase of Trypanosoma cruzi infection of heart endothelial cells](#). PLoS Negl Trop Dis. 2022 Jan 5;16(1):e0010074. doi: 10.1371/journal.pntd.0010074. PMID: 34986160; PMCID: PMC8730400.

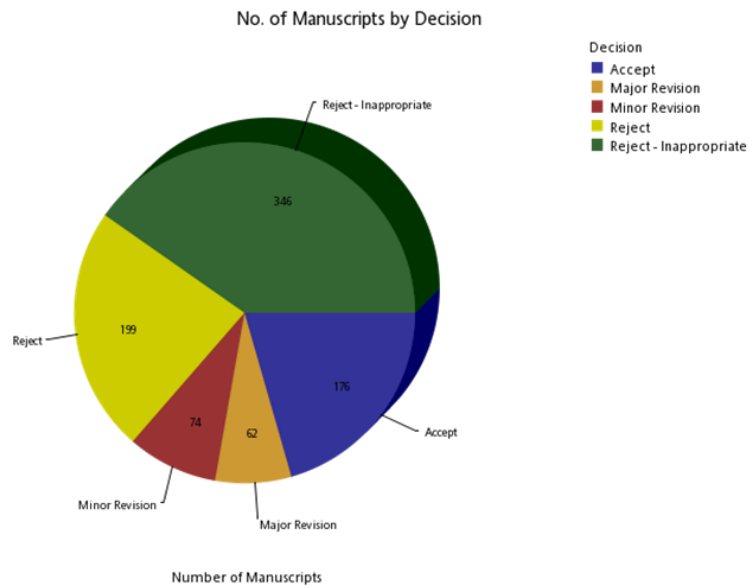
Myers JN, Harris KL, Rekhadevi PV, Pratap S, Ramesh A. [Benzo\(a\)pyrene-induced cytotoxicity, cell proliferation, DNA damage, and altered gene expression profiles in HT-29 human colon cancer cells](#). Cell Biol Toxicol. 2021 Dec;37(6):891-913. doi: 10.1007/s10565-020-09579-5. Epub 2021 Jan 7. PMID: 33411230.

Berthaud, V., Johnson, L., Jennings, R. *et al.* [The effect of homelessness on viral suppression in an underserved metropolitan area of middle Tennessee: potential implications for ending the HIV epidemic](#). BMC Infect Dis **22**, 144 (2022). <https://doi.org/10.1186/s12879-022-07105-y>

Journal of Health Care for the Poor and Underserved (JHCPU) is a Meharry-owned and edited journal published by the Johns Hopkins University Press. **For more information, please contact journal editor Dr. Virginia Brennan at vbrennan@mmc.edu.**

The staff of the *Journal of Health Care for the Poor and Underserved (JHCPU)* hopes everyone on campus and in the Meharry research community experienced an enlightening and inspired Black History Month. This quarter's issue of the journal (*JHCPU* 33.1 Feb 2022) features many articles focused on people who are Black as well as members of other dispossessed population groups.

One feature we offer for readers of the Research Digest this quarter is a pie chart showing the number of submissions to *JHCPU* for 2021 and the final decision for each one. The acceptance rate hovered at about 20% - we congratulate all the authors from Meharry whose work we have published in the past year. The chart below represents proportions of editorial decisions for all papers submitted in the calendar year ending Dec. 29, 2021.



► The JHCPU had 211,000 article views in 2021 and ranks 3rd out of 708 journals in the online database ProjectMUSE.

► Its two-year impact factor, 1.449, ranks it in the middle of its peer journals with similar topic focus (ranging from .16 to 3.671.)

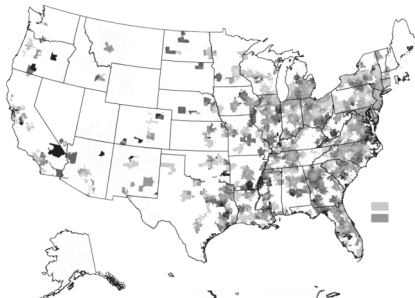
To provide a taste of what is in this quarter's issue of the journal, below we offer the outlines of a significant new article by Imam Xierali and Mark Nivet from the University of Texas Southwestern Medical Center. The title: Application of Decomposition Analysis of Spatial Accessibility (DASA) in Health Services Research.

Withdrawal mapping is a technique for illustrating the impact of providers in particular areas: as Xierali and Nivet put it, “one hypothetically removes the group of health care providers from certain areas and examines the local population’s dependency on their availability, thus highlighting the importance of these providers to the local population.” In this paper, the authors provide grounding in the theoretical foundation of spatial accessibility research for withdrawal mapping and use the new technique to investigate three policy-relevant questions: 1) Where and to what extent in the U.S. do people depend on the availability of Black surgeons? 2) In what areas of the U.S. does the population rely on international medical graduates from the seven countries on the Trump Administration’s travel ban list? 3) In this era of changing scope for general practitioners, to what extent are pediatric populations cared for by general pediatricians and to what extent by family physicians? The answers to these questions are apparent in the three figures shown here and the accompanying excerpt from the article (excerpted from Xierali and Nivet, *JHCPU* 33.1). The authors conclude that the technique they propose is useful in understanding subgroup contributions in spatial accessibility analyses, particularly for *workforce-planning for underserved populations*.

Question 1: “The spatial analysis results suggest that areas in the South with a higher percentage of Black residents, urban areas on the East coast, and Midwestern states are more dependent than the rest of the nation on Black surgical specialists for spatial accessibility to surgical care (see Figure 1). These areas seem to mirror the proportion of people in the Black population, with areas of a higher proportion of Black residents corresponding to areas of higher dependency on Black surgeons.”

Figure 1. Area dependency on Black surgical specialists for population spatial accessibility to surgical specialists in the U.S.

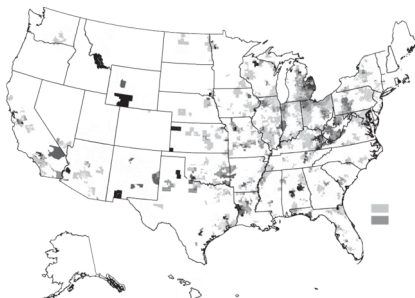
Lightest-Darkest: 0.0% - 1.0%, 1.1% - 2.5%, 2.6% - 5.0%, 5.1% - 15.0%, 15.1% - 100.0%



Question 2: “In this case study, we used data from the AMA Masterfile to determine the number of direct patient care physicians who graduated from medical schools from the seven countries and map the dependency of U.S. local populations on their presence for access to physician services. ... Results show that many areas of the U.S. depend on IMGs from the seven travel ban countries for access to health care (see Figure 2). Areas in Midwestern states were more dependent than the rest of the nation on IMGs from the seven countries for physician services.

Figure 2. Area dependency on International Medical Graduates from seven travel ban countries for population spatial accessibility to physicians in the U.S.

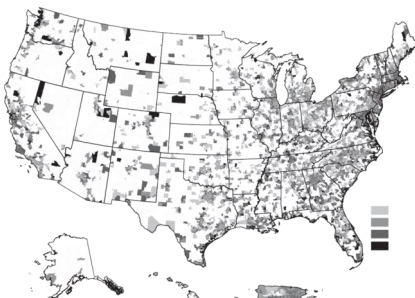
Lightest-Darkest: 0.0% - 1.0%, 1.1% - 2.0%, 2.1% - 3.0%, 3.1% - 5.0%, 5.1% - 50.0%



Question 3: “Results show there were 97,392 family physicians, 8,369 general practitioners, and 53,228 pediatricians in direct patient care at the end of 2014. There were an estimated 92.9 million people in the pediatric population who were 21 or younger in the U.S. and Puerto Rico, according the 2015 ACS data. The findings suggest that pediatricians were the dominant primary care providers for children in large metropolitan areas, especially in the Northeastern metropolitan areas and the Southern metropolitan areas (see Figure 3). On the other hand, family physicians and general practitioners were dominant in rural areas of the U.S.”

Figure 3. Dominance of general pediatricians for pediatric population spatial accessibility to primary care physicians in the U.S.

Lightest-Darkest: 0.0% - 10.0%, 10.1% - 20.0%, 20.1% - 30.0%, 30.1% - 50.0%, 50.1% - 100.0%



SERVICE GRANT HIGHLIGHTS

As highlighted in the [March 25, 2022 issue of The Digest](#), Meharry Medical College, Morehouse School of Medicine and ASHLIN Management Group (ASHLIN) have announced the creation of HealthWorks, a nearly \$9.7 million grant from the U.S. Department of Health and Human Services Health Resources and Services Administration (HRSA) as part of its Community-Based Workforce for COVID-19 Vaccine Program, to increase COVID-19 vaccine confidence in Georgia and Tennessee through targeted, culturally competent and outreach education with a focus on communities of color. **Dr. Paul Juarez, Department of Family & Community Medicine**, serves as the Meharry principle investigator.

RESEARCH GRANT HIGHLIGHTS

In December of 2021, SOGSR student **Kayla Rayford** (mentor: **Dr. Pius Nde**, Department of Microbiology, Immunology & Physiology) received an F31 fellowship grant for her project titled "Molecular mechanisms of Trypanosoma cruzi induced colon pathogenesis". Trypanosoma cruzi causes debilitating and incurable Chagasic megacolon. This life threatening illness affects several million individuals causing severe morbidity, mortality, and economic burden. Ms Rayford's project will elucidate the molecular mechanisms exploited by the parasite to induce colon pathogenesis, identifying specific molecular interventions and biomarkers to combat T. cruzi induced gastrointestinal pathology.

INNOVATION HIGHLIGHTS

Initiated by the Office for Research & Innovation in coordination with the Department of Professional and Medical Education, Meharry recently announced an agreement with **EON Reality**, a global leader in augmented and virtual reality-based knowledge and skills transfer. This agreement will bring hands-on training to Meharry students by Meharry educators without the need to be present in the classroom. The immersive experiences and content will combine with Meharry's existing medical courses giving our students and faculty a distinct advantage in remote learning. **Dr. Regina Offodile**, Intern-Chair of the Department of Professional and Medical Education, is leading the initiative. More information available in the Feb. 21 issue of [The Digest](#).

*Want to share your research news, highlights, and announcements with us? Want your stories featured in The Research Digest? Please submit this **REDCap survey** to share your updates with us.*

See you next quarter!