

# shade tree

C L I N I C

Annual Report 2018-2019





“For more than a decade, the Shade Tree Clinic has afforded our students a unique learning environment where their clinical skills flourish as they provide valuable assistance to our community’s medically underserved. Participating in the Shade Tree experience offers students the unique opportunity to be responsible for a continuum of patients’ needs while they learn fundamentals of health care delivery. The experience is incredibly rewarding for everyone involved and represents the very best of Vanderbilt University School of Medicine’s mission to train future leaders in health care.”

*Jeff Balser, M.D., Ph.D., President and CEO of Vanderbilt University Medical Center, Dean of Vanderbilt University School of Medicine*

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## Who We Are

The Shade Tree Clinic (STC) is a free health clinic run by students at Vanderbilt University School of Medicine.

## Our Mission

Our mission is to improve and invest in the health of the Nashville community while training, educating, and empowering the next generation of professionals in socially and culturally sensitive, equitable medicine. We provide comprehensive, patient-centered healthcare and health services free-of-charge for underserved and uninsured individuals of the Nashville metropolitan area.

## Impact

Since opening, Shade Tree has provided cost-free medical, social, and pharmaceutical support to over 4,000 patients. This past year, STC was the primary medical home to approximately 350 uninsured, underserved, and homeless patients. We provided nearly 2900 medical visits.

## From the Student Directors

It is 9 AM on a Thursday. We drive across town and knock on an apartment door, only to meet an angry man on the other side. It must be the wrong address, so we call our patient for the third time. Miraculously, she finally answers and directs us to the correct apartment where we are welcomed by her adorable granddaughter and many words of gratitude. We have come to give insulin to a woman who has used her last drop. Since she is insulin-dependent, her only options are to visit the emergency department to get her medication or to have it delivered by Shade Tree volunteers in her home. One volunteer carefully marked all 180 syringes with permanent marker since the patient struggles to read the numbers on the syringe. Another made a late-night trip to the Shade Tree dispensary to pick up the medication. The attending physician answered his phone after hours to help us form a safe plan for our patient and volunteers.

This story exemplifies the spirit of Shade Tree. Our volunteers go above and beyond by delivering care after regular working hours and outside the physical walls of the clinic. We ourselves cannot take credit for this—in reality, it is our patients who inspire us. The patient who shows up to clean buildings every day despite debilitating knee pain. The patient who remains kind to everyone while enduring an abusive relationship with her adult son. The patient who recovers from alcohol abuse after multiple relapses. At Shade Tree, students learn to listen not only to patients' heartbeats, but also to their stories of humility and resilience.



*Rohini Chakravarthy and Lauren Barr  
Executive Directors, Shade Tree Clinic*





## From the Medical Directors

As clinicians in a changing healthcare environment, we increasingly face obligations that pull us out of the exam room and away from our patients. Shade Tree Clinic, for many of us, represents an exemplary model of what clinical medicine ought to be. Physicians, interprofessional teams of students, and patients come together in a unique synergy. This environment facilitates excellent care for those in need while allowing students build patient relationships and learn the art of medicine. This past year has been an exciting year for us. We provide comprehensive primary care to **more than 320** uninsured Nashville residents and offer regularly scheduled specialty care in gynecology, psychiatry, neurology, physical therapy, ophthalmology, dermatology, weight loss, prenatal care, and other fields. We are grateful for a new home this year: through the hard work of many, we successfully transitioned all our services to a new space in the Melrose neighborhood.

We witness students integrating new technologies into clinic including point-of-care testing technologies, telemedicine diabetic eye screenings, and automating laboratory ordering in the electronic health record. These improvements allow us to provide care that is more cost effective and convenient for our patients. This year, we increased the number of depression screenings performed at Shade Tree due to its major impact on the overall health of our patients. Furthermore, we have expanded our partnerships, doubling the number of law and nursing students who volunteer regularly at our clinic. While this year has brought many successes and new developments, the significance of our work at Shade Tree is most apparent in patient stories. One such story belongs to Michael, a patient who was well known by our hospital's inpatient teams due to multiple readmissions every year. After receiving care at Shade Tree, Michael was never hospitalized again. Shade Tree's unique model and strong base of volunteers enable us to provide holistic treatment that goes beyond patients' physical needs. Whether a patient requires medications, specialty care, health education, transportation, assistance with utilities, or help with navigating the healthcare system, our team steps up to serve in every way we can.

Shade Tree's success would not have been possible without the support and generosity of our donors and volunteers. **On behalf of our patients, we thank you.**

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*Robert Miller, M.D., Michael Fowler, M.D., and Eleanor Weaver, M.D.  
Medical Directors, Shade Tree Clinic*

# Nursing School Partnership

Shade Tree started in a trailer in East Nashville, providing free walk-in care to local residents. Over the past 14 years, we have become a medical home that provides ongoing primary and specialty care to our unique patient population. Thanks to Shade Tree supporters, we outgrew our trailer. Then we outgrew our location at Neighborhood Health on Dickerson Pike and moved to the Melrose Neighborhood on 8th Ave South. The Vanderbilt Nurse-Midwives welcomed us with open arms and Girl Scout cookies, and we could not be more grateful.

A shared space is just the beginning of our growing partnership with the School of Nursing. Under the leadership of administrators and our nursing liaisons, Theresa Bainbridge and Genevieve Beninati, nursing students have been integrated into numerous positions this year. They serve as laboratory technologists, interpreters, specialty clinic directors, patient assistance program advocates, finance managers, and volunteer social workers. Once their electronic health record positions are cleared, nursing students will have the opportunity to serve in larger clinical roles as well. We look forward to expanding our collaboration in the coming year.

Shade Tree has also been strengthening ties with the School of Nursing Clinic at Mercury Courts through shared patients, resources, and strategic alignment. This year, we hosted our first joint fundraiser and shared the proceeds from the Shade Tree Trot between the two clinics.

# Leadership

## Clinic Leadership

*Executive Directors:* Lauren Barr and Rohini Chakravarthy  
*Director of Finance:* Russell Day  
*Director of Operations:* Danny Sack  
*Director of Patient Health Education:* Sarah Rachal  
*Directors of Dispensary:* Ayesha Muhammad and Kevin Neuzil  
*Director of Social Work:* Meredith Monsour  
*Medical Directors:* Michael Fowler, M.D., Robert Miller, M.D., and Eleanor Weaver, M.D.  
*Social Worker:* Shannon Jordan, L.M.S.W.

## Past Executive Directors

*2017-2018:* Joshua Latner and Gregory Fricker  
*2016-2017:* Joey Starnes and Tom Klink  
*2015-2016:* Emily Buttigieg, Whitney Muhlestein  
*2014-2015:* Mary DeAgostino-Kelly, Justiss Kallos, Mary Van Meter, Cristin Quinn, Rafael Tamargo  
*2013-2014:* Nick Harris, Taylor Triana  
*2012-2013:* Bharat Kilaru, Matthew Stier  
*2011-2012:* Allison Ferreira, Paula Marincola  
*2010-2011:* Ben Deschner, Ravi Patel  
*2009-2010:* Jonathan Steer, Adam Wegner  
*2008-2009:* Meredith Albin, Alon Peltz  
*2007-2008:* Eve Henry, Caitlin Toomey  
*2006-2007:* Sarah Dunn, Caroline Kim  
*2005-2006:* Dana Guyer, Sara Horvitz  
*2004-2005:* Kristina Collins, Katie Cox

## Board of Directors

Al Powers, M.D.  
Allen Naftilan, M.D., Ph.D.  
Amy Fleming, M.D., M.H.P.E.  
Andre Churchwell, M.D.



Board of Directors (Cont.)

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Bob Dittus, M.D., M.P.H.  
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Cecelia Theobald, M.D.  
Consuelo Wilkins, M.D., M.S.C.I.  
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Gregory Fricker  
Jeff Stovall, M.D.  
Joshua Latner  
Jule West, M.D.  
Lauren Barr  
Lewis Lefkowitz, M.D.  
Mavis Schorn, Ph.D., C.N.M., F.A.C.N.M.  
Michael Fowler, M.D.  
Neerav Desai, M.D.  
Reid Finlayson, M.D.  
Robert Miller, M.D.  
Robertson Nash, Ph.D., R.N.  
Rohini Chakravarthy  
Shannon Jordan, L.M.S.W.  
Sheryl Fleisch, M.D.  
Tracy Hagemann, Ph.D  
Victor Legner, M.D., M.S.

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Nicholas Harris  
Josh Latner  
Matt Stier  
Lauren Holroyd  
Rohini Chakravarthy  
Lauren Matevish  
Greg Fricker  
Lauren Barr  
Joey Starnes  
Whitney Muhlestein  
Meg Tebbs  
Rafi Tamargo





# Patient Experiences



## Ms. Webster's Story

Ms. Webster has been a Shade Tree patient since 2014. She is a former Vanderbilt employee who worked in the hospital cafeteria.

Like one third of Shade Tree patients, Ms. Webster has diabetes. She has worked hard with her Patient Health Educator (PHE) to set diet and weight loss goals. Her A1c, a measure of her diabetes control, has been steadily improving, and she has lost 30 pounds in the last year by adjusting her diet and lifestyle. She credits the personalized approach of Shade Tree clinic with helping her "get control of [her] health".



## Mr. Maxwell's Story

For nearly two years, Mr. Maxwell has been driving more than two hours to Shade Tree to receive care. He first came to Shade Tree after having surgery at Vanderbilt for a large parathyroid carcinoma.

At Shade Tree, dietetic interns have assisted Mr. Maxwell, helping him regain the weight he lost while he had cancer. He plays guitar in a band, and has also regained his ability to sing following damage to his vocal cords during surgery.

Like many Shade Tree patients, Mr. Maxwell requires care for a number of complex medical problems. He receives his medications through the Shade Tree pharmacy, and has been referred to specialists at Vanderbilt for kidney trouble and urinary complaints. He credits Shade Tree with "saving [his] life after my cancer surgery."

Though he lives far from Nashville, Mr. Maxwell visits the clinic every few months. He speaks regularly on the phone with his patient health educator (PHE), who provides him with nutrition advice and other supportive resources.



# Clinic Departments

## Finance

The Shade Tree finance department primarily oversees clinic spending and pursues sources of funding. These include grants, donations, and fundraisers. Without this income, many of the programs we have at Shade Tree would not exist. As part of the grant reporting process, the finance department is responsible for managing data on patient health outcomes. Through gathering and analyzing these data, we have the unique opportunity to measure the impact that Shade Tree has on our patients' health. We are able to identify strengths and areas for improvement in order to provide equitable, evidence-based care to our patients.

This fiscal year, the finance department has successfully obtained grants from the Boulevard Bolt and the American Psychiatric Association. The Boulevard Bolt has supported our vaccine efforts for more than 10 years, and helps us to successfully provide hundreds of influenza, TDAP, and Pneumovax vaccines every year to both our patients and the Nashville homeless population. The APA's Helping Hands Grant will allow Shade Tree to expand its outreach and education efforts with the medical school regarding mental health, which is a major concern in our patient population.

*Director of Finance: Russell Day*

## Dispensary

The Shade Tree Clinic dispensary is a full-service dispensary featuring over 300 different medications, all provided to our patients free of charge. The dispensary also coordinates vaccine orders for clinics and outreach events and incorporates immunizations into clinic flow. Over 40 dispensary volunteers, including both medical and pharmacy students, process medication orders, complete documentation, and fill prescriptions for the entire Shade Tree panel." With guidance from licensed pharmacists, we provide medication education and reconciliation to all of our patients. The dispensary department also creates detailed reports and analysis to support more accurate documentation of medication utilization and expenses. We also house a Patient-Assistance Program (PAP) department which helps connect our patients to expensive new medications for free that we would otherwise be unable to provide.

The dispensary department continues to lead Shade Tree in compliance, having scored highly on both Environment of Care surveys as well as consistently receiving perfect scores on our monthly, dispensary-focused MEDS survey.

This year has included a number of changes for the Shade Tree Dispensary. After going live with a new electronic pharmacy dispensing system, PharmacyRx, last year, this year we saw the clinic transition to a new electronic health records system, eStar. This brought about significant changes to our medication ordering workflow which was entirely reworked to now include students, under the supervision of attendings and dispensers-in-charge, placing medication orders in eStar for Shade Tree patients. With both our health records system and our dispensary system now entirely electronic, we have already seen how these can help us take better and more efficient care of patients. For example, we recently saw gabapentin become a C5 scheduled drug and therefore stopped carrying this in our dispensary. Utilizing both of our electronic systems, we were able to quickly and efficiently identify all patients who this would affect and develop individualized plans going forward. We have also upgraded the equipment in our dispensary, including a new state-of-the-art Pharmacy grade refrigerator, thanks to our generous donors.

*Directors of Dispensary: Ayesha Muhammad and Kevin Neuzil*

## Operations

Operations plays an essential role in the processes that keep our clinic running smoothly. When patients arrive at clinic, Clinic Coordinators at the front desk serve as the first point of contact for patients. They answer any questions patients may have and then manage the clinic flow from checking in patients to alerting relevant teams for each patient's needs. Our team also schedules patient appointments and works with patients who cannot make it to their scheduled appointments. We are also responsible for coordinating all volunteer logistics across the clinic. Operations is uniquely posed to evaluate processes of clinic flow and generate improvements that reduce patient waiting, volunteer burden, and errors. This past year, we collaborated with the Nursing School to update eStar permissions for their volunteers, updated our intake in accordance with VUMC policy changes, and refined monthly reports to update the teams on various clinic metrics regarding volume, health maintenance, medications, labs, volunteer turnout, and efficiency.

*Director of Operations: Danny Sack*



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**“Shade Tree serves so many essential functions for our students and our medical school. Shade Tree teaches that holistic caring goes beyond the examining room to include social, legal and behavioral services, that outstanding care is possible in resource constrained environments, that caring for systems is a professional obligation, and that their efforts as students really do make a difference”**

*Bonnie Miller, M.D., Associate Vice Chancellor for Health Affairs,  
Senior Associate Dean for Health Sciences Education*



## Patient Health Education

The Patient Health Education Program was established in 2012 to improve the continuity of care for Shade Tree Clinic's patients with chronic diseases, including diabetes, cardiovascular disease, and respiratory conditions. Under the leadership of the Patient Health Education Program Director, a team of first-year medical student patient health educators (PHEs) serve as case managers for 100 patients who were previously enrolled in the program by the clinic's Medical Directors. Though these patients represent 30% of the total clinic patient population, they characterize the subgroup of patients with multiple chronic medical conditions often complicated by disadvantaged socioeconomic factors external to the clinical environment (e.g., immigration status, ability to travel to clinic, and employment status). In the clinical setting, the PHEs assume an educational role. Both of Shade Tree's twice-weekly clinics are staffed by PHEs, and they are often joined by one of Vanderbilt's dietetic interns. These PHEs meet with each in-clinic patient currently enrolled in the program. PHE visits often focus on the discussion of specific, patient-centered diet and exercise goals as well as the promotion of medication adherence, health maintenance, and patient autonomy in medical decision-making. In addition to their 10-15 minute visits with program patients, the PHEs also see other Shade Tree patients with newly diagnosed conditions and/or newly prescribed medications that require additional education (e.g., insulin administration). The significance of the PHE's role as case manager is most prominent in the out-of-clinic setting. Throughout the entire calendar year, PHEs serve as the direct line of communication between their 7-10 assigned patients and Shade Tree Clinic. In this role, the PHEs establish a personal relationship with each of their patients as they regularly communicate laboratory results, assist in scheduling appointments, and promote continued health progress (with respect to diet and exercise goals, medication education and compliance, and triaging of acute complaints) between scheduled clinic appointments in order to minimize the utilization of emergency departments and other lapses in patient care.

*Director of Patient Health Education: Sarah Rachal*

## Social Work

The social work department at STC was established to address the social determinants of health for our patients. Student volunteers work alongside a licensed social worker to connect patients with community resources. Our database includes resources for housing, utilities assistance, employment, mental health, transportation, substance use, vision and dental needs. Patients can also receive assistance from

a health insurance navigator and a licensed attorney. Members of our social work department regularly follow up with a panel of patients to provide additional support throughout application processes, resource referrals, and other processes that are difficult to navigate.

This year, the social work department helped address over 600 social needs for our patients. This includes obtaining glasses for more than 25 patients, providing bus passes to help patients get to appointments, providing 45 referrals for assistance from Legal Aid, and assisting patients with obtaining dentures and hearing aids. In addition, volunteers organized trainings on insurance, immigration, domestic violence, mental health, and motivational interviewing. We have also worked to strengthen a partnership with local dental clinics and established legal screenings conducted by students from the Vanderbilt University School of Law.

*Director of Social Work: Meredith Monsour*

## Laboratory Services

The Laboratory Services department manages lab collection and immunization for patients during clinic by student technicians. The department also oversees quality improvement regarding lab draws and orders at Shade Tree. The team is led by a senior student, whose responsibilities include training and overseeing technicians, tracking inventory and labs collected at Shade Tree, and communicating with the rest of the Shade Tree administration regarding the state of the lab. Technicians are present at every clinic and facilitate lab collection by drawing and collecting any labs requested by the clinic team (including phlebotomy and point-of-care testing) and performing vaccinations and immunizations. The department tracks data on labs drawn each month, allowing the clinic's administration to gain insight into what type of labs are collected at Shade Tree, and identifying ways to reduce waste and unnecessary tests. This year has seen the transition into our new clinic space along with the implementation of a new point of care test for improved diabetes management. We have cooperated with the Shade Tree Outreach team to help provide hundreds of pneumonia and influenza vaccines to local residents. We have also partnered with students both within and outside of the School of Medicine to develop quality improvement initiatives.

*Lab Coordinator: Duncan Smart*

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**I am always impressed with the impact Shade Tree Clinic has on our students. From students that volunteer, teach, or help raise money to support the clinic, to those who take on major leadership roles, nearly every student that graduates from Vanderbilt University School of Medicine has been involved with Shade Tree.**

*-Amy Fleming, M.D., M.P.H.E., Associate Dean for Medical Student Affairs,  
Associate Professor of Pediatrics*

## Shade Tree Specialty Clinics

### Dermatology

The dermatology clinic brings dermatologists from Vanderbilt to care for Shade Tree patients with cutaneous concerns. The clinic manages both acute and chronic conditions as well as annual skin cancer screenings for our patients. We have supplies available to biopsy lesions, obtain skin scrapings for microscopic evaluation, and perform cryotherapy on site. Any additional care, including Mohs surgery and nail biopsies, is arranged through Vanderbilt.

*Directors: Laura Wang and Danny Zakria*

### Gynecology

The gynecology clinic holds a free clinic the first Tuesday of each month for uninsured and underinsured women who need an annual women's exam or require attention for more specialized complaints, such as abnormal uterine bleeding, abdominal pain, sexually transmitted diseases, vaginal infections, infertility, and breast complaints. Women are seen and examined by a team of volunteer medical students, an attending Vanderbilt Obstetrics & Gynecology physician, and (recently added) Vanderbilt Obstetrics & Gynecology residents. All women receive birth control counseling, with options offered by our clinic free-of-charge, including oral hormonal agents, hormonal injections, and implantable devices. We also support the primary care clinic in keeping patients up-to-date on their cervical cancer screenings. For patients requiring further care, pelvic ultrasounds, colposcopies, annual mammograms, and specialty clinic visits are scheduled at the Vanderbilt Medical Center as needed.

*Directors: Kelsey McNew and Molly Eckman*

### Neurology

The neurology clinic provides quality neurological services to patients who could not otherwise readily afford the cost of care and serves a valuable role in medical student education. Patients present with a variety of neurological complaints including



seizures, headaches, strokes, neuropathy, and movement disorders. We are even able to offer Botox to our patients in need. In addition to medical consultation by board-certified physicians from the Vanderbilt Departments of Neurology and Neurological Surgery, patients are referred for imaging studies and consultation at Vanderbilt University Medical Center free-of-charge. We are now piloting a sleep apnea initiative to continue our efforts to deliver comprehensive care.

*Directors: Elizabeth Moore and Sumeeth Jonathan*

### Ophthalmology

The ophthalmology clinic offers comprehensive eye care to all Shade Tree patients, from patients who need a new glasses prescription to patients with advanced eye disease. In partnership with the social work office, we provide free eye glasses for our patients through the New Eyes for the Needy program. We screen patients for diabetic retinopathy during primary care visits using telemedicine where we image the retina using a fundus camera, upload the images to the patient chart and an ophthalmologist will then examine the images. We also provide eye exams to screen for glaucoma and visually significant cataracts. Shade tree ophthalmology clinic has developed a strong relationship with Vanderbilt Eye Institute physicians, who donate their time and resources to see our patients that need more specialized ophthalmic care.

*Directors: Kari Fossum and Yuxi Zheng*

### Orthopaedics and Physical Therapy

At the orthopaedics and physical therapy clinic, we see patients with a variety of musculoskeletal complaints. Many of our Shade Tree patients struggle with joint pain that can affect their ability to exercise, which in turn affects their overall health. Even the ability to perform simple activities like walking up the stairs or cooking meals can be difficult with injuries. Our student teams are able to evaluate both acute and chronic injuries during a clinic visit. X-rays, CT scans, and MRIs can be obtained if appropriate. We manage our patients' problems with the help of licensed physical therapists, medication, counseling, joint injections, and even surgery—all free-of-charge to the patient. The orthopaedics and physical therapy clinic also organizes an annual hand surgery day during which Vanderbilt Orthopedic Surgeons perform cost-free surgeries for patients.

*Directors: Colby Wollenman and Joseph Gibian*

### Psychiatry

Shade Tree Psychiatry Night is a specialty clinic offered on the second Tuesday of every month. Staffed by attending psychiatrists, the psychiatry clinic helps provide either chronic follow up for individuals with behavioral health care needs or first time evaluation for patients with newly identified or referred mental health concerns. The monthly clinic provides a dedicated time and space towards the integration of primary care and mental health services for the patients served by Shade Tree, including expert consultation on the diagnosis of mental illness, optimization of psychoactive medication management, and identification of therapeutic needs requiring referral to other community psychiatric resources.

*Directors: Thao Le and Rebekka Depew*

### Shade Tree Early Pregnancy Program (STEPP)

The Shade Tree Early Pregnancy Program (STEPP) hosts a free prenatal clinic the first Saturday of each month for uninsured and underinsured women needing early prenatal care. Staffed by volunteer medical students, nursing students, and an attending Vanderbilt nurse-midwife, patients receive a primary prenatal care visit and are then scheduled for an ultrasound and follow up appointment at a clinic in the Nashville area that provides full well-woman and prenatal services. Additionally, patients at STEPP receive assistance applying for insurance coverage for the rest of their pregnancy. The mission of STEPP is two-fold. First, STEPP strives to connect pregnant women from underserved populations with early prenatal care, community resources, prenatal education, and social resources. Second, STEPP trains future generations of medical and midwifery students to provide holistic interdisciplinary prenatal care for underserved populations by addressing their physical, psychological, and social needs.

*2018-2019 Nurse-Midwifery Co-Directors: Katrina Despinos, Marleigh Higgins*  
*2018-2019 Medical Co-Directors: Masha Grig, Catherine Zivanov*  
*2018-2019 Outreach & Programs Coordinator: Sushmitha Divakar, Michelle Weyhaupt*

### Weight Loss

The weight loss clinic works with patients struggling to maintain a healthy lifestyle. Our team addresses the medical, social, and psychological barriers that prevent weight loss and keep close follow-up with patients to monitor their progress. Through

a multidisciplinary team, our patients plan healthier dietary choices and learn to incorporate exercise into their daily lives. They attend monthly group sessions to build a social support network to share strategies of overcoming barriers and challenges to achieving their goals.

*Directors: Kate Frost and Kendrick Campbell*

### Rheumatology

The Shade Tree Rheumatology Clinic recently progressed from an informal clinic to a formal clinic with official sub-specialty directorship, and has now been integrated to run symbiotically during primary care clinic. Rheumatology clinic serves the rheumatological needs of Shade Tree's patient panel, caring for patients with diseases such as rheumatoid arthritis and systemic lupus erythematosus. The sub-specialty clinic also assists in the diagnostic workup of referral patients with joint pain or concerns for possible rheumatological diseases, and assists in the follow-up and workup of patients who have a positive ANA, ESR, and/or CRP laboratory testing. In the past year, the clinic has managed approximately 20 patients, many of whom require recurrent visits. Approximately 7 patients require long-term drug monitoring while on immunomodulating agents, such as methotrexate, azathioprine, and adalimumab.

*Directors: Alex Tinianow*

## Other Services

### Acute Care Coordinators

Acute Care Coordinators fill the patient health education role for patients that are not formally assigned to a PHE. They help schedule appointments, follow up lab results, and provide encouragement for patients between clinic visits as appropriate.

*Coordinators: Emily Moore, Lauren Matevish, Christian Gerhart, David Suh*

### Patient Assistance Program

The STC Patient Assistance Program (PAP) team works with patients and collaborates with other STC teams to provide certain free medications to eligible patients who cannot afford them, which includes a majority of uninsured patients seen at STC. Our efforts are vital to the sustainability of the clinic and to the access and quality of health care we provide to our patient population. Pfizer, Johnson & Johnson, Merck, GlaxoSmithKline, AstraZeneca, Gilead, and Sanofi are among the many pharmaceutical companies that offer PAP programs that benefit our patients. In clinic, PAP student volunteers assist patients in applying for various medications, most commonly inhalers and insulins, which are relatively expensive i.e. \$200-300 for a 1-month supply. Behind the scenes, the Vanderbilt Pharmacy PAP team helps us to keep track of application statuses and refills. In addition to the commonly used medications mentioned above, we are able to give some patients infected with chronic Hepatitis C free treatment with Harvoni, a groundbreaking retroviral therapy with over 90% cure rate but with a notoriously high cost (up to \$90,000 for a full 12-week course). Other costly specialty medications we have been able to provide through PAP include Truvada, Creon, Botox, Victoza, Canasa, and Uceris. Currently, over 100 patients at STC are enrolled in one or multiple PAP programs, and since we launched the Harvoni initiative in 2016, 10 of 10 patients who have completed treatment have undetectable viral loads. The PAP team has a tremendous impact on reducing the cost of the dispensary and providing access to much needed medications to the socioeconomically disadvantaged in Nashville.

*Coordinator: Eriny Hanna*

### Research Department

The research directors help set research priorities for STC and support students completing quality improvement and research projects. We are in the process of obtaining IRB approval for a STC data repository, which will vastly enhance future research efforts at STC.

*Coordinators: Matthew Madden and Matthew Wleklinski*



## Spanish Services

Spanish Services is responsible for recruiting, training, and scheduling Spanish interpreters to work at clinic for Tuesday, Saturday morning, and Saturday afternoon shifts. Our responsibilities during clinic consist of interpreting during clinic visits and during other required tasks such as social work and dispensary interactions. Outside of clinic, staffed VMS interpreters (first year medical students and nurse practitioner students) are responsible for calling patients a day before clinic to remind them of their appointment or reschedule as necessary. Other responsibilities include interpreting documents on an as needed basis and triaging patients. The body of interpreters consists of medical students, nurse practitioner students, other graduate students, undergraduates, and alumni. Medical students and nursing students are recruited at the beginning of every year. Graduate students come in on an ad hoc basis. Some undergraduates come from a class taught by Lori Catanzaro named “Spanish in the Medical Profession.” In this class, undergraduates are required to volunteer 4 hours a week or every other week depending on the number of interpreters during the academic period. The remainder of undergraduate students are usually students that were in the aforementioned course and continue to volunteer even after the course has ended. All other interpreters are required to interpret at least 2-4 times every 2 months. Interpreters sign up on their own and are able to exchange shifts as needed. The shifts have been updated to have a designated closing interpreter to ensure there is full interpreter coverage until the last Spanish speaking patient leaves, while also ensuring interpreters’ time is being used effectively. Before interpreters volunteer for the first time, they are screened to ensure Spanish proficiency with a written and oral exam and provided a brief orientation. Furthermore, there is a great need for making calls to Spanish speaking Shade Tree patients by various teams and Specialty clinics at Shade Tree. A new system has been developed this semester so interpreters can help with these additional calls during down time in clinic.

*Coordinator: Natalia Garza*



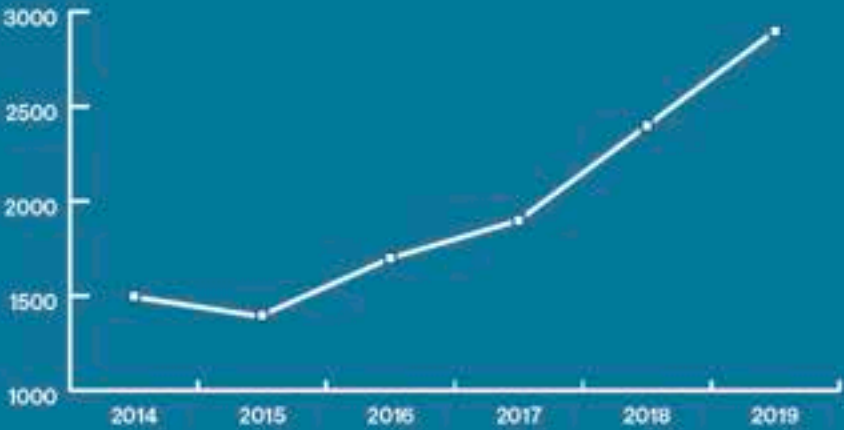


# By The Numbers

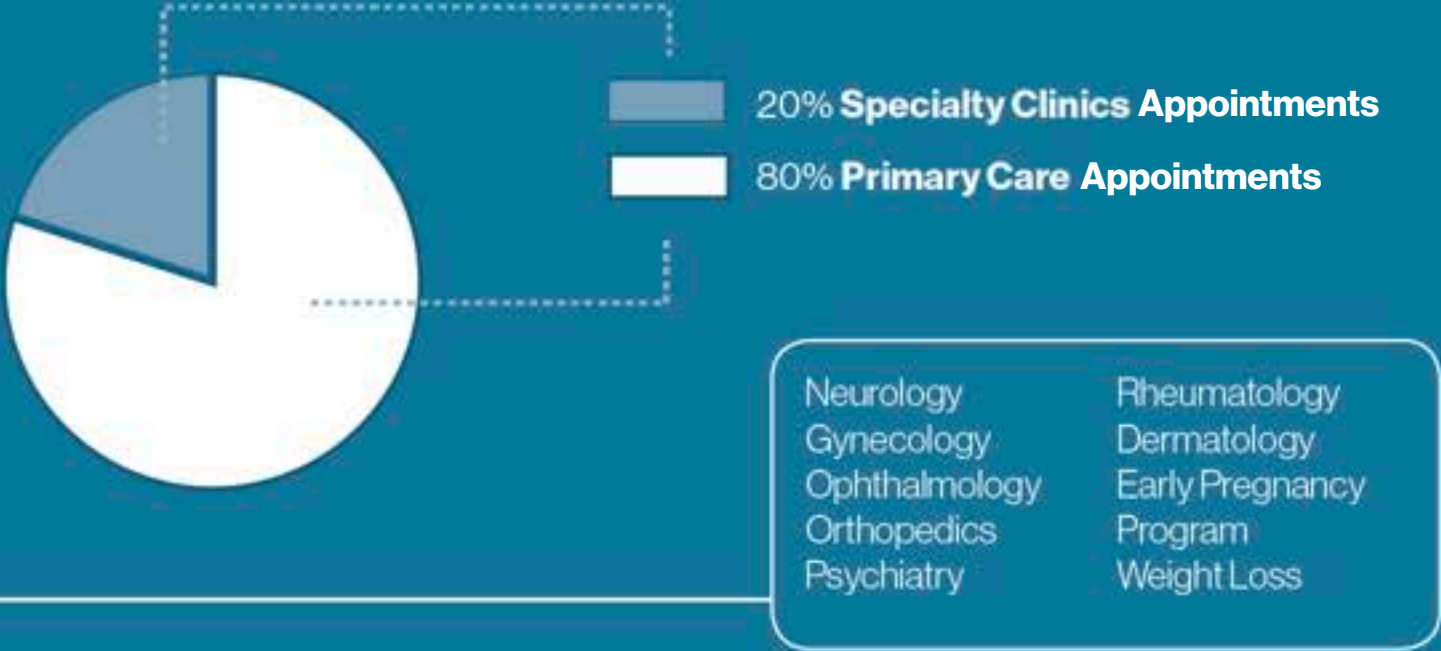
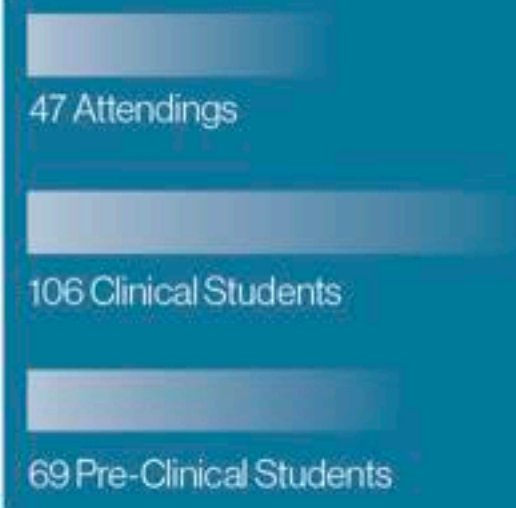
## Our Clinic

350 Patients  
2900 Appointments

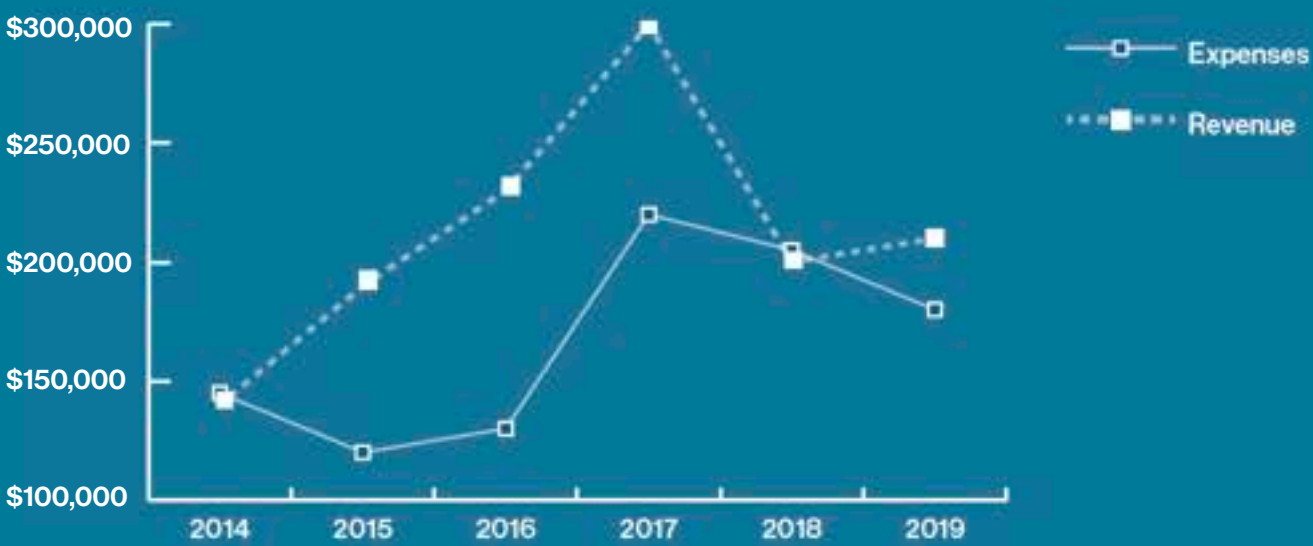
Patient Appointments



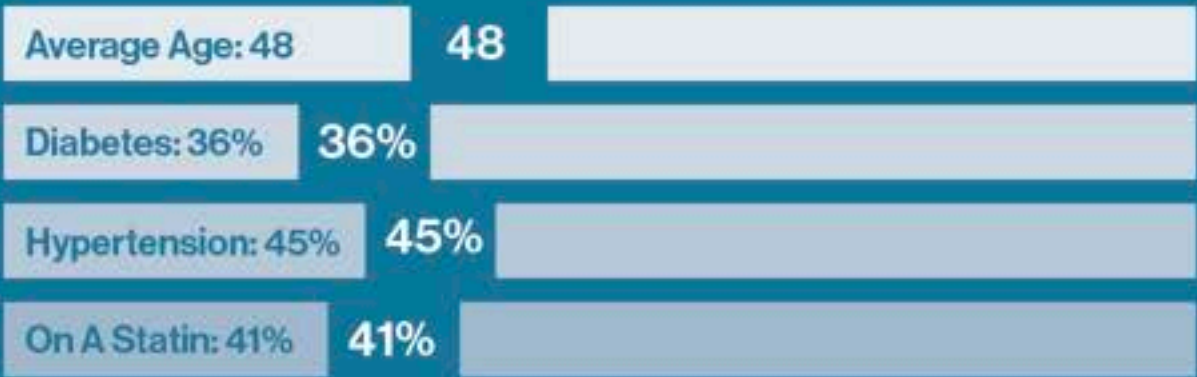
Clinical Volunteers



Fincancial Trends



## Our Patients





# Grant Support

## The Boulevard Bolt

This past year, our clinic was awarded \$23,000 by the Boulevard Bolt to continue our vaccine outreach program. Through this support, our clinic was able to organize ten vaccination events in the community, during which we provided **547 influenza immunizations** to people experiencing homelessness in Nashville. To date, Shade Tree has administered **7,335 flu vaccines** with the support of the Boulevard Bolt.

## Helping Hands

Shade Tree Clinic was recently awarded a \$5,000 grant from the Helping Hands Grants Program of the American Psychiatric Association Foundation. With the support of this grant we will work to improve mental health amongst our patients through the following efforts:

1. Developing and conducting a culturally sensitive mental health training for approximately 40 clinical staff and volunteers to increase knowledge of and comfort with addressing mental health concerns.
2. Expanding screening efforts for depression and substance abuse with the goal of screening the entire panel this year .
3. Addressing transportation barriers to mental health care by offering free Lyft rides to psychiatry and counseling appointments.

## Shade Tree Trot

The Shade Tree Trot is an annual event which serves to increase awareness of the Shade Tree Clinic throughout the community and to raise funds to support the Clinic's operating expenses. The 11th annual Shade Tree Trot, presented by Vanderbilt Medical Alumni Association, was held on April 20 on the Vanderbilt campus. The 5K fun run/walk raised **over \$25,000** for the Shade Tree Clinic and the Clinic at Mercury Courts, which offer educational opportunities for medical, nursing, law and pharmacy students to learn how to deliver comprehensive care and address social determinants of health. The Trot continues to grow each year and is quickly becoming one of the premier 5k events in Nashville, catering to students and families alike, with this year's event featuring **more than 700 registrants**. Each participant receives a race T-shirt, official race timing, and access to the festivities taking place before and after the race!

This past year's event was even more special as it was the first year for Vanderbilt's School of Medicine and School of Nursing to collaborate together to raise funds benefitting our two clinics, Shade Tree and Mercury Courts. All proceeds were donated directly to the clinics and will be used to support the health care and medication needs of Nashville's underserved communities!

*Directors: Maxwell Roeske & Saif Hamdan*

## Shade Tree Benefit Dinner and Auction

The Shade Tree Benefit Dinner and Silent Auction was founded in 2013 with two goals in mind: first, to enhance Shade Tree Clinic's visibility within the Vanderbilt community, especially among members not consistently reached by the Shade Tree Trot; and second, to serve as a sister fundraiser to the Shade Tree Trot. At the 2019 Benefit Dinner, our incredible donors helped us have our most successful event yet. With a fantastic team and a lot of support, we hosted around 350 guests. Highlight auction items this year included Pappy Van Winkle Bourbon, Phelps Vineyard Wine, multiple sets of Predators tickets, and incredible artwork.

With the generous support of our sponsors, individual donations, and guests, this year's event raised over \$110,000. 100% of the proceeds from the event were donated directly to the clinic and patients in need. In addition, the Dinner received a substantial anonymous donation that will contribute additional funds to the clinic.

*Directors: Kianna Jackson and Michelle York*

## Shade Tree Benefit Concert

The Shade Tree Benefit Concert is hosted annually by the Blair School of Music to raise funds for the clinic's operating expenses. The concert took place on September 2, 2018 in Ingram Hall. This year featured performances by the Nashville Sinfonietta, Tucker Biddlecombe and his choir, and the Vanderbilt Music Academie Ensemble. Admission is free, and donations are collected at the door for Shade Tree Clinic. This year's event **raised \$2,200**.

# Publications

Shade Tree Clinic is one of the few student-run clinics in the country to feature a fully functioning dispensary that is able to provide the vast majority of medications to our patients at their clinic visit free-of-charge. The innovative system that allows this to happen was published in the journal Informatics for Health and Social Care.

**Rosenbaum BP, Patel SG, Guyer DL, Dunn SR, Herceg ME, Knox CK, Miller RF. The pharmaceutical management system at Shade Tree Family Clinic: a medical student-run free clinic’s experience. Informatics for health & social care. 2008 Sep;33(3). 151-7.**

Shade Tree’s innovative model of providing access to prenatal care to underinsured and uninsured patients was published in the Journal of Midwifery and Women’s Health.

**Danhausen K, Joshi D, Quirk S, Miller R, Fowler M, Schorn MN. Facilitating access to prenatal care through an interprofessional student-run free clinic. Journal of midwifery & women’s health. 60(3). 267-73.**

Our Patient Health Educator model was shown to improve clinical outcomes for patients with diabetes as measured by improved hemoglobin A1c. This was published in Academic Medicine, the premier medical education journal.

**Gorrindo P, Peltz A, Ladner TR, Reddy I, Miller BM, Miller RF, Fowler MJ. Medical students as health educators at a student-run free clinic: improving the clinical outcomes of diabetic patients. Academic medicine: Journal of the Association of American Medical Colleges. 2014 Apr;89(4). 625-31.**

**The Effect of a Student-Run Free Clinic on Hospital Utilization. Silas P. Trumbo, Kelly M. Schuering, Justiss A. Kallos, Nicolas Baddour, Shayan Rakhit, Li Wang, Michael Fowler, Eduard E. Vasilevskis, Robert F. Miller Journal of Health Care for the Poor and Underserved, Volume 29, Number 2, May 2018, pp. 701-710 (Article)**

**Reasoner K, Desai MJ, and Lee DH. A Helping Hand: The Case for Volunteerism. Journal of Hand Surgery, vol. 43, no. 10, pp. 941–944, Oct. 2018.**

# Presentations

Our students presented projects at several national conferences this year. Poster presentations are included below.

**Mayberry L. “Information, Motivation, & Behavioral Skills Barriers to Adherence among Adults with Diabetes in Safety-Net Clinics.” Society of Behavioral Medicine, San Diego, March 2017.**

**Livia Knoll and Rohini Chakravarthy. “Addressing Patient’s Mental Health Needs at a Student-Run Free Clinic.” Society of Student Run Free Clinics, Omaha, February 2018.**

**Karina Mendoza and Tanya Marvi. “Improving HIV Screening at a Medical-Student Run Free Clinic Through Electronic Medical Record-Driven Provider Guidance.” Society of General Internal Medicine, Denver, April 2018.**

**Improving Interprofessional Competency of Medical Students at Shade Tree Clinic. Clark Stallings, Matthew Villaume, Eleanor Weaver MD, Hope Collins MPA. American Association of Medical Collages: Integrated Quality 2019**

**Screening, Resource Mobilization, and Community Partnerships at a Student-Run Free Clinic. Annie Apple, Shannon Jordan, Mollie Limb, Kelly Schuering, Rochelle Wong. Presentation at Root Cause Coalition 2018**

**Ophthalmology Student-Run Free Clinic Improves Uninsured Patient Care and Provides Early Student Exposure to Ophthalmology. Yuxi Zheng, Katherine Sumarriva, Sneha Lingam, Kari Fossum, Rohini Chakravarthy, Matthew De Niear MD, Janice Law MD, Edward Cherney MD. Society for Student Run Free Clinics Conference 2019**

**Expanding Mental Health Services at a Student Run Free Clinic: Screening, Transportation and Education. Meredith Monsour, Rebekka DePew, Rohini Chakravarthy, Kelly Scheuring, Thao Le, Morgan Flynn, Benjamin Coiner, Shannon Jordan LCSW, Alistair Finlayson MD, Catherine Fuchs MD, Michael Fowler MD, Eleanor Weaver MD, Robert Miller MD. American Psychiatric Association IPS: The Mental Health Services Conference**

# Clinic Volunteers

## Physicians

Abby Parish  
Alexandra Shingina  
Allen Naftilan  
Beatrice Concepcion  
Beth Ann Yakes  
Billy Sullivan  
Bradley Richmond  
Cecelia Theobald  
Daniel Clark  
Daniel Cottrell  
David Slosky  
Eiman Jahangir  
Francis Balucan  
Gisella Carranza Leon  
Howard Fuchs  
James Powers

Jennifer Green  
John Newman  
John McPherson  
Jon Kropski  
Jordan Wright  
Jule West  
Justin Hewlett  
Kathleene Wooldridge  
Kaylin Craig  
Kevin Liu  
Kevin Byram  
Kevin Hageman  
Krista Suojanen  
Kristine Tatosyan-Jones  
Lauren Hartman  
Lynn Punnoose

Mark Wigger  
Matthew Mart  
Michael Lowry  
Michelle Griffith  
Mona Mashayekhi  
Neerav Desai  
Roy Zent  
Shailja Shah  
Shannon Skinner  
Shayne Taylor  
Susan Kroop  
Tiffany Hines  
Tony Ross  
Wade Iams  
Wes Ely

## Finance Managers

Leland Dunwoodie  
Olivia Henry  
Paige White  
Seth Reasoner

## Social Work Staff

Katie McKay  
Katherine Lee  
Morgan Flynn  
Mallory McKeon  
Samuel Massion  
Timothy Schurz  
Benjamin Coiner

## Clinic Coordinators

Pooja Santaparum  
Dakota Vaughan  
Lin Cao  
Beatrice Konrad  
Allison Lake  
Rahul Ramaswamy

## Dispensary Staff

Adam Hetzler  
Adam Stark  
Alex Wells  
Ali Alving-Trinh  
Anand Brahmbhatt  
Ashley Riner  
Austin Rockenhaus  
Ayesha Muhammad  
Brandi Dansby  
Calvin Cable  
casey schwartz  
Chala Wayu  
Courtney Edwards  
Cyrus Yahyavi  
Eileen Shiuan  
Emily Mace

Eriny Hanna  
Haley Black  
Hannah Gipson  
Hatice Nur Eken  
Hayley Belina  
Holly Lanham  
Jack Walker  
Jackie Antoun  
Jessica O'Shea  
John Ewing  
John Shelley  
Julia Vishenchuk  
Kalin Wilson  
Kate Xie  
Katie Prendergast  
Kayla Guerrero

Kevin Neuzil  
Laura Dellalana  
Lauren Holroyd  
Megan McLeod  
Noah Harrison  
Rachel Windmueller  
Sharon Kam  
Simone Herzberg  
Sounak Roy  
Steven Scaglione  
Whitley Vann  
William Quach  
henry Quach  
Kendrick Campbell  
Jonathan Knowlton  
Mark Xu

## Patient Assistance Program Volunteers

Adam Hetzler  
Austin Rockenhaus  
Brahmbhatt Anand  
Casey Schwartz  
Eriny Hanna  
Kalin Wilson  
Kayla Guerrero  
Noah Harrison  
Sharon Kam  
Sounak Roy  
Steven Scaglione

## Patient Health Educators

Aisha Suara  
Arulita Gupta  
Clarissa Liu  
Emily Friedman  
Gabrielle Davis  
Jessa Fogel  
Jessica Trinkl  
Nathan Samora  
Patrick Donegan  
Sydney Stark



Spanish Services Volunteers

Albert Holler	Daniel Carranza Leon	Natalia Garza
Alexandra Verzella	Daniella Thillemann	Nick Rosenthal
Allison Lake	Hannah McGrew	Nicole Kloosterman
Allison Thayer	Heidi Carpenter	Phoebe Ahn
Ana Torres	Jasmine S. Chaparro	Priyanka Kadari
Annika Gunderson	Jen Crook	Santiago Angaramo
Anthony Rios	Lauren Lambert	Sofia Shirley
Autumn Greenfield	Madeline Meloy	Sumanth Chennareddy
Britt Hatcher	Mae Wimbiscus	Tess Batchelder
Bry King	Maria Loaiza Bonilla	Thomas Perez
Claire Posey	Max Carter	Yongseok (Sam) Cho
Clara Wang	Myriam Shehata	

Shade Tree Trot Committee

Alan Tang	Hannah Brown	Parker Evans
Alex Tinianow	Jeremy Hatcher	Pooja Santapuram
Benjamin Campbell	Kai Ting Wu	Sushmitha Divakar
Chandler Washburn	Katie Mann	Sydney Payne
Colin White-Dzuro	Katlyn McKay	Tara McDermott
Donald Okoye	Kaustav Shah	Tara Roeder
Eva Niklinska	Kyle Langford	Tavia Gonzalez Pena
Evonne McArthur	Matthew Villaume	

Laboratory Technicians

Andrew Schaffer  
Kelly Vittetoe  
Missy Kimlinger  
Rachel Fortner  
Rebecca Wegman

Administrators

Shannon Jordan - Social Worker  
Chay Sengkhounmany - Lawyer  
Dara Dixon - Clinic Manager  
Kathyrn Killebrew - Dietician  
Allison Jones - Lawyer  
Tracy Hagemann - Pharmacist  
Jeremy Moretz - Pharmacist

Medical Student Clinical Volunteers

Alex Tinianow	Joseph Starnes	Natalie Bennett
Alexander Sherry	Joshua Anderson	Nathaniel Yohannes
Allie Williams	Joshua Corriveau	Nicholas Kuhl
Anne Sun	Joshua Latner	Nicolas Baddour
Annie Apple	Joshua Anderson	Nicole Bakhoun
Arrush Choudhary	Kaitlin Geck	Nikhil Chavali
Ayesha Muhammad	Kaitlyn Reasoner	Nkechi Nwabueze
Bianca Martinez	Karampreet Kaur	Parker Evans
Caleb Ford	Kari Fossum	Patrick Wu
Chandler Montgomery	Katherine Sumarriva	Peter Bryant
Christiaan Wijers	Kathleen Hiltz	Petria Thompson
Christian Gerhart	Katy Anthony	Philip Wilson
Cooper March	Kaustav Shah	Pranav Santapuram
Daniel Hong	Kelly Schuering	Rand Pope
Daniel Kashima	Kelsey McNew	Rebekka DePew
Daniel Sack	Kyle Langford	Rochelle Wong
Daniel Wolfson	Laura Dellalana	Rohini Chakravarthy
David Liu	Lauren Matevish	Russell Day
David Suh	Leon Cai	Sarah Fitzlaff
Didi Odinkemelu	Lillian Juttukonda	Sarah Rachal
Eileen Shiuan	Margaret Axelrod	Sean Collon
Elise Clemens	Maria Grig	Sean Berkowitz
Emily Moore	Matt Lan	Shan Parikh
Emily Long	Matthew Villaume	Shaunak Amin
Evonne McArthur	Matthew Madden	Sonal Walia
Gautam Rangavajla	Megan Mitchell	Sydney Payne
Gregory Fricker	Megan Shroder	Tavia Gonzalez Pena
Hannah Phelps	Meredith Monsour	Thomas Klink
Hannah Kay	Meredith Rogers	Thomas Day
Henry Quach	Merla Hubler	Timothy Hopper
Jean-Nicolas Gallant	Michael Raddatz	Varun Menon
Jennifer Haydek	Michael Zhang	Veronica Young
Jeremy Hatcher	Michael Litt	Victoria Treboschi
Jessica Zic	Michelle York	Vince Riccelli
Jonathan Knowlton	Mollie Limb	Vishesh Jain
		Whittney Wiley





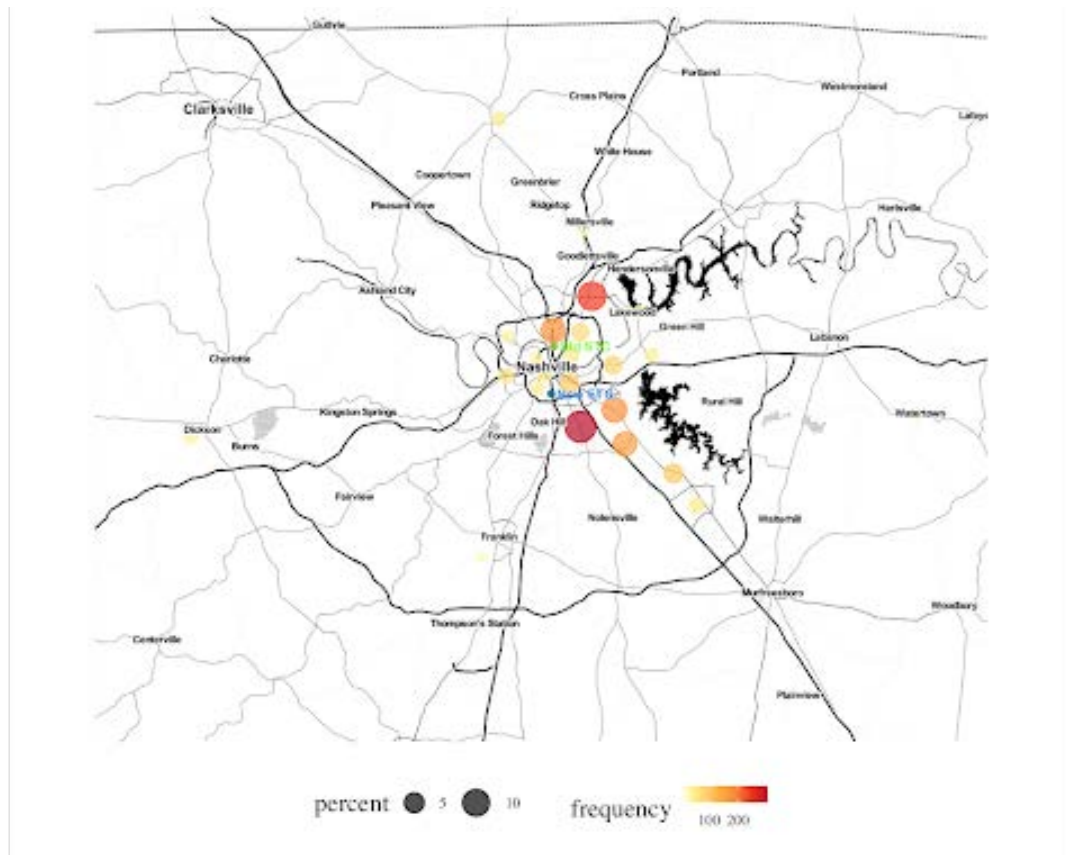
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**“Medical schools across the country are trying to incorporate more content about health systems science. The Shade Tree Clinic offers our students a unique site to consider, and improve, the design of healthcare systems as they provide essential care for patients in need. I admire our students for their steadfast investment in our community.”**

*Kim Lomis, M.D., Associate Dean for Undergraduate Medical Education*



Shade Tree Patient Zip Codes (greater than 1% of all scheduled visits)



# Welcome to Our New Location!

Since September 2018, Shade Tree clinic has been housed within the Vanderbilt Nurse-Midwives Melrose location on 8th Ave South. Given its proximity to Nolensville Pike, the new location is more accessible to many of our patients. Over the past year, we have adjusted to the new location, which is larger with a more open floor plan and separate rooms dedicated as a work room, a social work room, and a screening room. We have reduced costs by sharing lab expenses with the Vanderbilt Nurse-Midwives, and we appreciate their continued hospitality.



**shade tree**  
CLINIC

2410 Franklin Pike  
Nashville, TN 37204

Phone: 615.422.5262

Shade Tree Clinic Hours:  
Tuesday 6pm-9pm  
Saturday 12pm-4pm

[www.shadetreeclinic.org](http://www.shadetreeclinic.org)