On the Cover

Angela Zarrella, FNP, administers a COVID-19 test in the drive-up Acute Care Clinic that was established on MAHEC’s campus in the spring to expand access to safe testing for patients and community members.

Jeffrey LaSalle, RN, assists Angela Zarrella, FNP, with administering a COVID test.

Some photos were taken prior to the implementation of state guidelines to prevent the spread of COVID-19.
Dear Friends:

What a remarkable year 2020 has been thus far. The world has certainly been faced with more than its share of challenges this year – natural disasters, social discord, and a global pandemic that we are still navigating our way through.

Yet, amidst all of this, there is hope in the faces of those who work in healthcare and the continued presence of and contributions from MAHEC in our community. Now in its 46th year, MAHEC remains ever committed to improving health in Western North Carolina through innovative health professions training and education and compassionate healthcare. With modest beginnings in 1974, MAHEC is the largest of the state’s nine AHECs and enjoys a national reputation for innovation in healthcare education and healthcare delivery. UNC Health Sciences at MAHEC is a unique interdisciplinary collaboration with the University of North Carolina, Western Carolina University, and regional community partners. Located on MAHEC’s main campus in Asheville, UNC Health Sciences at MAHEC includes the UNC School of Medicine Asheville Campus, a master of public health program led by UNC Gillings School of Global Public Health, and innovative educational and research collaborations with UNC Eshelman School of Pharmacy.

Simply put, the COVID–19 pandemic brought out MAHEC’s best. Among the many ways it has risen to the challenge, the organization provided not only clinical care to those infected, but community leadership with regard to testing and partnership with community organizations including schools and universities. Rapidly moving from in-person visits to telehealth visits, MAHEC clinics served as role models for other organizations. Advocacy by MAHEC leaders at the state level helped to facilitate new models of payment from state and commercial sources. A focus on historically marginalized populations has ensured access to testing and care for all. The ongoing African American Health Series webinars has raised awareness and facilitated community conversation around issues related to healthcare disparities and scores of Project ECHO presentations have facilitated education around both pandemic and non-pandemic related matters.

And all of this is because of the individual efforts, offered in a collaborative and community-focused fashion, of each and every one who works for MAHEC. Top notch leadership and staff in all regards.

So I offer my congratulations and deepest thanks to MAHEC for all it has done and continues to do. It is a privilege and an honor to serve as the Chair of the Board.

Sincerely,

William R. Hathaway, MD
This past year was a time of tremendous challenge, opportunity, and transition for UNC Gillings School’s Master of Public Health Program in Asheville. It was the year when the world relied on place-based public health measures to battle a deadly pandemic. It was a year when our nation grappled with increasing divisions, disparities, and social unrest. And it was a year when the MPH program celebrated its first graduating class and mourned the loss of its founding director, Travis Johnson, MD, MPH, after a seven-year battle with cancer.

Although he did not live to see many of these momentous events, Travis helped prepare his students for all of them through his life’s work, the MPH program he passionately developed, and the words he left his students shortly before his passing:

“I do believe that the greatest public health threat today is hatred. I believe if we can use health to fight this and bring us together, it would be a huge win. This comes through a drive for justice, a heart for mercy, and a lifestyle of humility. These values I hope you carry with you as you move forward in your career.”

His students, and all those who Travis’ life has touched, are committed to carrying on his legacy.

2020 Program Highlights

- First class of 13 students graduate from MPH Program in Asheville
- Gillings School approves place-based health concentration
- UNC Asheville’s Amy Lanou, PhD, becomes program director
- Gillings alumna Susan Mims, MD, MPH, joins leadership team
- MPH students work with 19 community organizations across WNC

Learn more at www.mahec.net/mph
Learning to Provide Collaborative Care

School of Medicine, School of Public Health, School of Pharmacy

Our academic health center brings learners together with faculty and clinicians from a variety of health professions to prepare them to practice the team-based care that is essential for improving health in our underserved and rural communities.

AHEC Scholars Program at MAHEC

Our first cohort of 10 AHEC Scholars graduated in 2020. This two-year national program recruits, trains, and supports a diverse group of health professions students and exposes them to collaborative equity-focused care and social determinants of health through 80 hours of didactics and 80 hours of clinical shadowing.

Interprofessional Educational Experiences

Early in the pandemic, UNC medical, public health, and pharmacy students had the opportunity to participate in real-world public health experiences. Interprofessional student teams worked with our regional response team to identify and respond to a variety of emerging needs including those related to:

- PPE and testing supplies
- Migrant farmworkers
- Isolated older residents
- Incarcerated populations, and
- Individuals experiencing homelessness

Learn more at www.mahec.net/unc-ipe
MAHEC in the Region

Unprecedented Challenges Inspire Unprecedented Innovation

Never before has the need for a regional academic health center been more clear than in 2020 when Western North Carolina faced an unrelenting global pandemic and widespread social unrest over violence and other disparities. These public health crises exacerbated existing health challenges that include higher rates of chronic disease, behavioral health and substance use disorders, and healthcare workforce shortages.

MAHEC’s clinical expertise and strong regional partnerships coupled with UNC’s world-class academic resources enabled UNC Health Sciences at MAHEC to lead a well-coordinated regional response to COVID-19 and other challenges that threatened the health of our region this year.
The COVID-19 Global Pandemic

**Created**

- Significant health threats for WNC’s rural, chronically ill, and older residents
- Unprecedented strain on our healthcare systems and workforce
- Rapid changes across systems of care to ensure patient and staff safety
- Increased risk of overdose and relapse in our already high-risk region

**Expanded Health Disparities**

- Putting rural and historically marginalized residents at greater risk for exposure and serious illness
- Isolating vulnerable populations during quarantines and other restrictions
- Intensifying economic and educational disparities, food and housing insecurity, and creating barriers for those without access to broadband technology for telehealth and distance learning

**Exacerbated Workforce Shortages**

- Causing many practices to reduce staff and services during the pandemic
- Leaving several WNC counties with less than half the primary care workforce needed
- Creating new barriers for those with behavioral health and substance use disorders
- Disrupting clinical training opportunities for health sciences students

**MAHEC**

**Responded**

- Rapidly assessed the region’s COVID-19 prevention and response needs
- Supported WNC practices and institutions of higher education with COVID-19 guidance, training, technical assistance, and PPE
- Guided regional practices in telehealth implementation
- Coordinated COVID-19 communications, data, and resource sharing

**Leveraged Assets to Address Disparities**

- Directed testing, PPE, and resources to the most vulnerable WNC residents
- Developed statewide training to support social determinants of health
- Expanded community-centered initiatives to improve access to healthcare

**Expanded Our Essential Workforce**

- Added rural fellowship sites and rural teaching practices
- Created interprofessional educational experiences to support team-based care
- Established the region’s first behavioral health safety net supporting 18 WNC counties
- Redesigned curricula to provide meaningful and safe learning opportunities
Early in the pandemic, MAHEC coordinated with state and local partners to develop a comprehensive regional response to protect Western North Carolina by focusing on areas of greatest need.

5 key areas:

- COVID-19 needs assessment and data sharing
- Testing, tracing, and containment
- Capacity building
- Supply chain coordination
- Regional communications

Assessing the Need
MAHEC, UNC, and the Cecil G. Sheps Center faculty and students surveyed 113 primary care practices across WNC and provided practice support for urgent COVID-19 needs within 24 hours.

Targeting Our Response
MAHEC worked with regional partners to create a WNC dashboard that identifies COVID-19 trends and hot spots to enable the rapid deployment of resources to our most vulnerable communities.

Analyzing the Results
Working with UNC in Asheville and Chapel Hill, our researchers are analyzing data from several North Carolina health systems to identify patient characteristics associated with COVID-19 mortality.

Learn more at www.mahec.net/covidsurvey
MAHEC developed best practices for COVID-19 prevention and treatment; safe clinical operations; telehealth, teletherapy, and teledentistry; and equitable care for at-risk and historically marginalized communities.

Testing, Treating, and Containing the Virus

In early March, MAHEC was one of the first in the region to offer drive-up COVID-19 testing for patients and community members.

- Car-based clinic provided quick, convenient, and safe access to testing
- Patients with COVID-19 symptoms were treated in a separate clinic to minimize exposure risk
- MAHEC clinicians provided medical care for individuals quarantining after release from detention facilities

MAHEC leveraged regional expertise and resources by working closely with

- State and regional health departments
- Community-based health organizations
- Local chambers of commerce
- WNC universities and colleges
- The University of North Carolina system
Building Our Region’s COVID Capacity

MAHEC’s Practice Support

Helped more than 50 healthcare practices across 16 WNC counties meet COVID-19 needs including:

- Training and guidance
- PPE and testing supplies
- Financial assistance
- Telehealth implementation
- Practice transformation

Weekly Virtual Drop-In COVID-19 Support

- 78 live Project ECHO® videoconference sessions since March
- 4,135 participants

Topics included COVID-19 treatment in primary care, telehealth implementation, community resources to support SDOH, healthcare workforce resiliency, COVID-19 preparedness for institutions of higher education, and infection prevention and control in long-term care facilities

Library Resource Guides

- Curated COVID-19 guidance, tip sheets, and resources
- Accessed over 7,450 times

Guides address patient care and testing, PPE, telehealth, ob/gyn care, health equity, vaccines, resiliency and mental health, coding and billing, and financial assistance

Safe Re-Opening Guidance

- Practice support for providing safe on-site patient care
- Smart Restart Toolkit and LibGuides for businesses and organizations
- Strategic planning partner for WNC universities and colleges

Supply Chain Coordination

- Surveyed 113 WNC practices to assess PPE and testing supply needs
- UNC student researchers identified local, state, and federal suppliers
- Used online platforms to facilitate regional PPE procurement and bulk purchasing

Early in the pandemic, MAHEC dental residents and UNC medical students developed prototypes for PPE and COVID-19 test swabs.
Creating Opportunities in the Midst of Crisis

Innovation requires not only the best ideas but also the resources necessary to turn them into actionable solutions. UNC Health Sciences at MAHEC faculty and research scientists helped drive innovation in 2020 with a successful grant funding strategy that supported expansion of behavioral health services, access to treatment for opioid use disorder, rural workforce development, maternal and infant health equity, and a regional COVID-19 response.

Western North Carolina struggles with higher rates of serious mental illness, substance use disorders, and depression and has a shortage of behavioral health professionals to treat these chronic health conditions.

2020 Grants & Gifts:
$12.2 M

Opioid & SUDs
$3,889,459

Rural Health Workforce Development
$2,614,100

Behavioral Heath
$2,085,000

Health Equity
$2,006,405

COVID-19
$1,020,488

Healthy Aging
$430,000

Additional
$619,725

“Becoming a certified community behavioral health clinic is a long-term solution that allows MAHEC to offer ongoing care to people who are uninsured, which will give them a better chance of successfully managing their illness.”

- Steve Buie, MD, Chair, MAHEC Department of Psychiatry

Learn more at www.mahec.net/ccbhcare

MAHEC’s Center for Psychiatry and Mental Wellness has developed a number of broad-reaching strategies to bridge the barriers to treatment for residents with severe mental illnesses and substance use disorders across our 18 WNC counties.

1. Create a safety net. The center significantly expanded staff and services to support insured and uninsured residents as WNC’s first certified community behavioral health clinic.

2. Make services more accessible. MAHEC piloted behavioral telehealth before COVID-19 and provided telecounseling and medication management services throughout the pandemic.

3. Provide community-based care. Mobile crisis services, school-based counseling, certified peer support, and care coordination provide critical services where they are needed most.

4. Train more psychiatrists. The residency program expanded to six residents per class and added a consultation-liaison psychiatry fellowship to support collaborative care.
Our rural and diversity pathway programs recruit the brightest students from across WNC and provide them with ongoing interprofessional training opportunities from high school through undergraduate and professional programs and into rural practice. Rural fellowships and rural teaching practices provide lifelong learning and mentorship opportunities through our academic health center.

AHEC Scholars

“"I loved getting hands-on experience in a variety of health professions and gaining different perspectives in the medical field — learning things that aren’t necessarily covered in school.”

—Abril Ruiz-Lopez
UNC Asheville senior, first-year AHEC Scholar, aspiring pediatrician

Minority Medical Mentoring Program, Fall 2019

“Abril Ruiz-Lopez shadows chief resident Luke Wilkinson, MD, at the MAHEC Family Health Center at Biltmore.”

UNDERGRADUATE

POSTGRADUATE

GRADUATE PROFESSIONAL SCHOOL

“This experience opened my eyes to how different perspectives and approaches of interprofessional team members can come together to solve problems more effectively.”

—David Hicks
UNC Eshelman School of Pharmacy, Class of 2021, reflecting on his COVID-19 Interprofessional Education (IPE) course.

New Rural Residency Program
MAHEC Boone Rural Family Medicine Residency Program welcomed its first four residents in 2020.

New Primary Care Residency Program
In 2020, MAHEC received ACGME approval for a new internal medicine residency program that will train 45 residents yearly by 2023.

Primary Care Training and Enhancement
A $2.5 million HRSA award will increase the rural physician workforce in WNC over the next five years through expansions in resident recruitment, rural rotations, interprofessional training, curriculum development, rural fellowships, and rural teaching practices.

These new programs and enhancements will enable MAHEC to train up to 97 primary care physicians each year, with an expected 60% remaining in WNC to practice.

“One of the best things about being a rural family doctor is the role you get to play in your community. You get to wear a lot of hats, and we’re replicating that in our curriculum and program.”

—Molly Benedum, MD
Director, MAHEC Rural Family Medicine Residency Program – Boone

Rural Fellowships
363 hours of clinical rotations at RTPs for family medicine and pharmacy residents, medical and nurse practitioner students, AHEC Scholars, UNC interns, and rural high school students.

Rural Teaching Practices (RTPs)
A third rural teaching practice was established in Haywood County, and plans are underway for RTPs in Jackson and Macon counties and the Eastern Band of Cherokee Indians.

Graduate Medical Education

2020 Rural Fellow Daniel Landon Allen, MD, (center left) and 2019 Hendersonville Family Medicine Residency Program graduate Caitlin Sullivan, MD (center right), celebrate the opening of their new family practice in West Jefferson, NC.

Five rural fellows established practice in four rural counties this past year.
Since 2017, 16 fellows have established practices in 12 WNC counties.
Project CARA supports approximately 200 pregnant and parenting women affected by substance use from 19 WNC counties each year. Program services include prenatal, labor and delivery, and postpartum care as well as medication for opioid use disorder, hepatitis C screening and treatment, counseling, peer support, and coordination of social services and inpatient treatment when needed.

**Family Transformation**

Project CARA babies are born at a healthier birthweight and are more likely to breastfeed. Their mothers are

- 25% more likely to attend prenatal visits
- 75% more likely to be illicit drug-free at delivery
- **800% more likely** to participate in behavioral health services

**System Transformation**

- Trained more than **700 healthcare providers** across NC and the US
- Provided clinical rotations and didactics for 61 learners
- Collaborated with community partners to provide wraparound care
- Created a toolkit to help providers build capacity to treat perinatal opioid use disorder
- Cared for pregnant women with SUDs who are incarcerated

“An ob/gyn visit may be the first time a woman reveals she is using substances. Our job is to ensure patients feel safe enough to confide in us so we can help them have a healthy pregnancy and birth.”

—Melinda Ramage, FNP

Project CARA Medical Director

Learn more at www.mahec.net/projectcara-healthaffairs

Ra'Sheena Parker, WHNP, and Melinda Ramage, FNP, in the Project CARA clinic.
Breaking Down Barriers to Treatment

The COVID-19 pandemic has exacerbated the opioid crisis, with the National Institute on Drug Abuse reporting increases in relapse rates and up to 40% more overdose deaths due to isolation and social distancing, financial stress, widespread job losses, increased fentanyl in the opioid supply, and healthcare workforce shortages.

Bringing More Tools to More Providers in 2020

- **Statewide MAT Residency Training**
  Over the course of a year, trained and provided technical assistance to 1,747 physicians, physician assistants, nurse practitioners, and clinical staff from 31 NC residency and advanced practice programs

- **Continuing Professional Development**
  Delivered 198 opioid programs to 9,036 participants

- **Making Communities Safer**
  Launched collaboration to provide MAT to justice-involved individuals in Buncombe County

- **Expanding Statewide Access to Treatment**
  Established addiction medicine hubs at MAHEC and UNC-Chapel Hill to provide MAT training and support to NC community-based health centers

Training Regional Addiction Specialists

With the support of a $1.8 million five-year HRSA grant, the Department of Family Medicine at MAHEC launched an addiction medicine fellowship this summer to increase the number of addiction specialists practicing in community-based and rural settings in Western North Carolina. The program will train up to four fellows each year under the mentorship of MAHEC faculty who are leading experts in medication-assisted treatment for opioid use disorder, perinatal substance use treatment, and safe chronic pain management.

Advanced training across a variety of community-based settings includes:
- medical detoxification
- pharmacotherapy
- telehealth
- psychosocial approaches
- harm reduction
- 12-step group facilitation
- working with certified peer support specialists

Fellowship director Nathan Mullins, MD, Carriedelle Fusco, FNP, and Blake Fagan, MD, are MAHEC faculty certified through the AAFP Opioid Response Network.
As the coronavirus swept through Western North Carolina, the pandemic exposed and amplified disparities in healthcare and social determinants of health. UNC Health Sciences at MAHEC has redoubled efforts to work with community partners across the region to ensure high quality healthcare is available when and where it is needed most.

### African Americans
- **2x more likely** to be hospitalized for chronic health conditions
- **3x more likely** to die prematurely
- **4x more likely** to die in their first year of life

### LatinX
- **3x more likely** to experience poverty
- **3x less likely** to have health insurance
- **26% of COVID cases** but less than 7% of the population

### Rural Americans
- **18%** of rural WNC residents live at or below the poverty line
- **100%** of WNC counties have shortages of healthcare professionals
- **130** rural U.S. hospitals have closed, several in WNC, in the past 10 years

Learn more at www.mahec.net/equity-apnews
MAHEC is committed to learning from and investing in the WNC communities most impacted by poor health outcomes. We engage community expertise in our health education, patient care, community partnerships, collaborative research, staff training, diversity workforce development, and our many initiatives focused on eliminating health disparities.

Mothering Asheville
Community-based movement to eliminate disparities in infant and maternal mortality rates by building community capacity, shifting the way we provide care for African Americans, and advocating for policy change.

SistasCaring4Sistas
Community-based doulas located in our ob/gyn clinic have provided evidence-based pregnancy care for over 100 families of color while creating career opportunities in perinatal health and a replicable model of care.

COVID-19 Health Equity
MAHEC’s COVID response team has worked with regional partners to provide equity-focused health information and training, testing supplies and PPE, and community-based resources.

Social Determinants of Health
We are committed to addressing the broader impacts of racism by connecting patients to community resources for housing, legal assistance, food, interpersonal safety, employment, and transportation.

Workforce Development
Our Minority Medical Mentoring Program and AHEC Scholars programs provide underrepresented minority students with interdisciplinary training and education to transform the healthcare workforce.

Patient-Affirming Care
MAHEC has partnered with leading experts to develop best practices for patient care and inclusive facilities that support the needs of transgender and gender non-binary patients and staff.

Learn more at www.mahec.net/doulas-politico

AHEC Scholars practice IV insertion on a task trainer in the Simulation Center.
## Financials

UNC Health Sciences at MAHEC FY 2019-20 Fiscal Plan Summary

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<th>FY 19-20 Spending</th>
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CLINICAL CARE

Family Medicine
- Clinics at Biltmore, Enka/Candler, Cane Creek and Newbridge
- Geriatric Care at Givens, Deerfield and Home-Based Primary Care
- School-Based Health (school nurses in Asheville City and Buncombe County public K-12 schools)
- Acute Care Clinic
- Specialty clinics in: Centering Parenting, IDD Assessment Clinic, HIV/Hep C, Sports Medicine

Obstetrics & Gynecology
- Clinics at Biltmore and in Franklin, NC (rural care)
- Centering Pregnancy
- Project CARA: Substance Use Treatment in Pregnancy
- Maternal-Fetal Medicine: High risk maternity care

Dentistry
- Clinics at Biltmore and Columbus, NC

Psychiatry
- Certified Community Behavioral Health Clinic
- MAHEC Center for Psychiatry & Mental Wellness
- School-based therapists

Internal Medicine

GRADUATE MEDICAL EDUCATION

Residencies
- Family Medicine (3 sites)
- Obstetrics & Gynecology
- Surgery
- Psychiatry
- Internal Medicine
- Transitional Year
- Dental, Dental MPH
- Pharmacotherapy
- Lifestyle Medicine Curriculum

Fellowships
- Addiction Medicine
- Consultation-Liaison Psychiatry
- Surgical Critical Care
- Hospice & Palliative Medicine
- Sports Medicine
- Maternal Child Health
- Rural Family Medicine, Pharmacy, Innovation

HEALTHCARE WORKFORCE DEVELOPMENT / The Pathway

- Health Careers Awareness Education
  - Minority Medical Mentoring Program
  - AHEC Scholars
  - Summer Camp
- Student Internships
  - UNC Asheville Pre-Healthcare Professions
  - WNC HEART
  - Davidson Impact
  - MedServe
  - MAHECXplorer
- WCU Expansion Programs
- Student Rotations & Housing (ORPCE)

HEALTH EQUITY INITIATIVES

- Certified Peer Support Specialists
- Community Health Worker Network
- Medical-Legal Partnership with Pisgah Legal Services
- Mothering Asheville (OB)
- Preconception Health (FM)
- SistasCaring4Sistas Doulas (OB)

COMMUNITY & PUBLIC HEALTH

- COVID Regional Response Team
- Lactation Consulting & Breastfeeding Clinic
- Safe Kids
- Triple P: Positive Parenting Program
- ACEs Learning Collaborative

RURAL HEALTH INITIATIVES

- Rural Teaching Practices (4 locations in Haywood, Polk, Yancey and Mitchell counties)
- Workforce Development
- Rural Fellowships
- Rural Maternity Care (OB)
- Pathway Programming
- Project PROMISE

RESEARCH & INNOVATION

Research
- Research areas of focus include:
  - Health equity, substance use disorders, practice-based research, chronic disease prevention and treatment
  - Home-Based Primary Care
- RWJF Clinical Scholars
- RWJF Interdisciplinary Research Leaders

CONTINUING PROFESSIONAL DEVELOPMENT

- Continuing Education
- Library Science
- Simulation Center
- Safer Pain Management & Opioid Education: Regional and Statewide Training Programs

UNC-AFFILIATED PROGRAMS

UNC School of Medicine Asheville
- Kenan Primary Care Medical Scholars

UNC Gillings School of Global Public Health MPH Program in Asheville

UNC Eshelman School of Pharmacy in Asheville

UNC Adams School of Dentistry
- Rural Oral Health Scholars

Center for Healthy Aging

Practice Support