Carolina Across 100 and Rural Pharmacy Health Initiative (RuralRx) Partnership Report

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Background







RuralRx

The Rural Pharmacy Health Initiative (RuralRx) is a program started by the University of North Carolina Eshelman School of Pharmacy (ESOP) to promote and build health resources, advance pharmacy practice, and improve health outcomes in rural communities. The program's main strategy is recruiting, training, and retaining healthcare professionals to serve rural communities across the state. Currently, the initiative has three established 'pharmacy hubs' in rural communities, which partner with local independent community pharmacies and federally qualified health centers in rural sections of North Carolina. In these hubs, ESOP students complete internships to not only gain clinical experience, but also to build connections with these communities, and hopefully inspire them to pursue post-graduate opportunities in rural settings.

Carolina Across 100

"Carolina Across 100" is a five-year, pan-university effort to partner with communities in each of North Carolina's 100 counties. The project is charged and supported by the Chancellor's Office at the University of North Carolina at Chapel Hill (UNC), coordinated by the UNC School of Government's ncIMPACT Initiative, and led by the Carolina Engagement Council. It embodies the public university'smission to enhance quality of life for all people in the state by building and supporting cross-sector collaborations that address challenges created or exacerbated by the COVID-19 pandemic and resulting stay-at-home orders.

In 2023, CX100 partnered with RuralRx as its fourth project. This partnership allowed for the launch of the third pharmacy hub in Northeastern North Carolina, partnering with the Roanoke Chowan Community Health Center in the city of Ahoskie, and serving the surrounding region.

The partnership also allowed CX100 to support RuralRx in:

- Improving and expanding efforts to inspire, recruit and train the future health care workforce in rural regions of North Carolina
- Establishing a rural internship infrastructure to increase engagement of pharmacy students in rural North Carolina
- Expanding upon successful collaborative practice initiatives that engage pharmacists in team-based care to increase patient access to high-quality medication optimization services and contribute to improving health outcomes.

Project Outcomes

1 Intern coordinator hired to support program

23 Community healthcare organizations engaged to support the program

8 Pharmacy Interns placed in rural hubs

88 Pharmacy students receiving professional development related to rural healthcare delivery

11 Site visits to local pharmacies to strengthen relationship with UNC-Chapel Hill

289 Pharmacy students, pharmacists, and others educated about rural pharmacy practice

15 Pharmacy students providing support for local public health initiatives

399 Rural students introduced to pharmacy careers

RuralRx created awareness of the field of pharmacy to potential students, allowed current pharmacy students to gain experience and connections in rural areas, and helped maintain those connections through future employment and a post-graduate residency program.

RuralRx partnered with local rural pharmacies to establish 'rural pharmacy hubs,' in Eastern North Carolina counties to provide essential healthcare to residents. The initiative also allowed for the creation of a summer internship that allowed students to gain experience in rural communities and strengthen the pathway of providers to future employment and post-graduate opportunities for training and employment in rural areas. Awareness of the field was built through programs such as the Conetone Summer Camp, which educated kids and teens about various health topics.

Project Motivations

The Rural Pharmacy Health Initiative was created as a response to two trends in the healthcare field. First, the healthcare and physician shortages in rural areas in North Carolina. Second, to combat the declining number of pharmacy student applications and the general lack of understanding of the extent of the field by current and future PharmD students.

Gap in Healthcare in Rural Areas

One of the main motivations for RuralRx was to address the gap in healthcare access in North Carolina's rural communities and counties of North Carolina. Currently in the US, there is projected to have a shortage of 124,000 primary care physicians (PCP's) by 2034 (Heiser, 2021). This shortage is much more pronounced in rural areas of the country that do not have the healthcare infrastructure of urban communities. Although access to a PCP has increased over time in North Carolina (from 919 people per one physician in 2017 to 738 people per physician in 2025), many counties fall behind to as low as 3,000 people per physician (The Cecil G. Sheps Center for Health Services Research, 2025). This shortage is also uniquely damaging to North Carolina's rural counties, whose healthcare infrastructure is burdened with a high population with chronic illnesses.

However, one solution to this shortage is to leverage community pharmacists as a part of a patient's primary healthcare team. Because patients visit pharmacies on average more frequently (1.5-2x times more) than their PCP per year (Valliant et al., 2022), community pharmacists are often well-suited to support patients' health goals through not only following their medication schedules but also providing patient education and other support.

Lack of Awareness

Despite the importance of community pharmacists to the health of rural residents there is one major issue that can undermine their utility: the decline in pharmacy school applicants. Rural Pharmacy Health Initiative Executive Director Stephanie Kiser notes that this decline can be attributed to multiple factors, including the increase in the number of pharmacy schools, increased automation in the pharmacy field, greater exposure of the public to the challenging work environments of community pharmacists that deterred people from the industry, and the increased popularity of alternative healthcare positions such as physicians assistants and nurse practitioners.

"A goal of this program was to bring awareness to the many opportunities in the pharmacy field"

While most people are aware of community pharmacies, other roles, such as Clinical Pharmacy Practitioner, are relatively unknown. RuralRx can act as a way to introduce and educate pharmacy students to the many career and practice pathways within community pharmacy as they provide crucial healthcare to rural communities. It can also play a role in influencing the decrease in pharmacy applicants by elevating awareness of pharmacy as a healthcare career to potential pharmacy students.

Project Activities:

Creation of pharmacy hubs in rural communities

RuralRx partnered with local community pharmacies and health clinics in rural Eastern North Carolina to support rural communities. Currently, there are three established pharmacy hubs in the program: Northeastern Pharmacy Hub, Area L Pharmacy Hub, and eastern pharmacy hub. Their partners included: Realo Drugs (New Bern), McDowell's Pharmacy, Rocky Mount Medical Park Pharmacy, Roanoke-Chowan Community Health Center, Cape Fear Clinic, and the Duplin County Health Department.

In addition to placing pharmacy interns in these communities, RuralRx also prioritized community engagement and feedback. One way this commitment was demonstrated was through the creation of an advisory board made of practicing pharmacists for the program and hosting a quarterly touchpoint program with the program's partners to help refine the roles and impact of the rural internships.

Pharmacy Internships

The primary activity of RuralRx is its internship program. The internship allows pharmacy students from the UNC Eshelman School of Pharmacy to gain experience in a rural pharmacy practice setting.

When choosing the interns, the program's faculty selected candidates using two main criteria:

1. Did students have prior personal experience or training in communities with limited resources or access to infrastructure?
2. Did the interns demonstrate an interest in serving rural North Carolinians?

Once chosen, interns were responsible for multiple roles in these communities. Interns supported local pharmacies' business operations by providing insight into new service delivery practices They also increased the exposure of a pharmacist's abilities in other healthcare settings, such as clinics, to these communities. Finally, the team participated as a part of these rural communities by offering health screenings and engagement with community members in food distribution centers, which helped the interns navigate food security situations.

Other Activities

RuralRx included many activities to increase awareness and interest in the profession.

- Conetone Summer camp, during which ESOP students and alumni teach kids and teens from local areas about health topics such as chronic illnesses, nutrition, and the management of medications.
- Interprofessional opportunities and seminars for PharmD students, such as an education session about harm reduction and opioid response work led by paramedics and peer counselors.

Future Directions

Looking to the future, the RuralRx program will continue supporting rural communities in ENC, providing training to ESOP students, and supporting increased awareness of pharmacy career pathways. Additional aspirations for the future of the program include expansion to rural counties in Central and Western North Carolina and collaboration with additional pharmacy practice sites across the state to expand the number of opportunities and impact on rural North Carolinians.

Sources

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