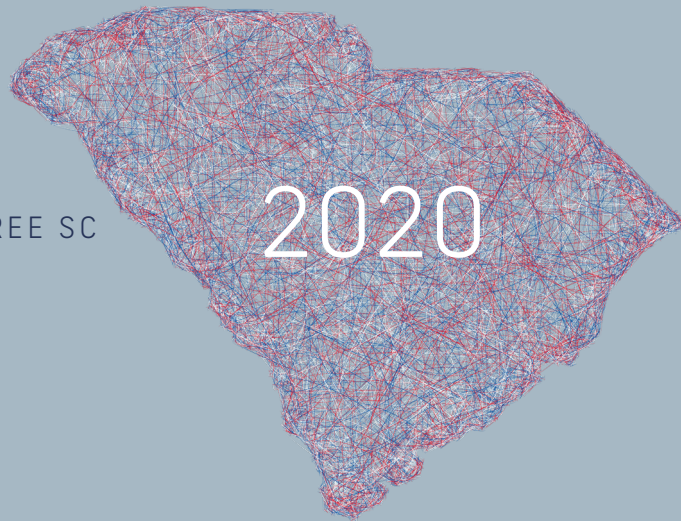


DIABETES FREE SC

2020

ANNUAL REPORT



# WINNING THE FIGHT AGAINST DIABETES

**Mission:** To align actions against diabetes, engaging South Carolinians to lead healthier lives.

# FROM THE EXECUTIVE MEDICAL DIRECTOR AND PROGRAM DIRECTOR

To realize the vision of the BlueCross BlueShield of South Carolina board of directors and executive team, Diabetes Free SC was established in January 2020, following a period of collaboration, consultation and planning. In our first months of operation, we worked in concert with leadership from BlueCross' Health Improvement & Innovation division as well as the BlueCross BlueShield of South Carolina Foundation, and in consultation with many other interested parties. Fortunately, we began our work before the COVID-19 pandemic, making it possible to have many in-person meetings helping to establish important relationships.

As a result of these conversations, we defined three strategic directions and five guiding principles. We identified potential external partners for project development, and they, in turn, developed proposals for funding support. In May, the BlueCross Foundation generously awarded almost \$12M to the five projects described in this report.

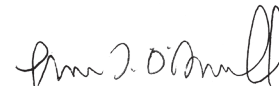
As these grantees worked to launch their programs, we began to expand the DFSC staff, hiring two outstanding project coordinators. We are also well along in the process of recruiting a data scientist, as we recognize that rigorous data collection and analysis are essential to measure our progress, report outcomes, disseminate and publish findings, and effect change in South Carolina and

beyond. Once a Ph.D.-qualified data scientist is in place, this individual will have two broad responsibilities: to ensure rigorous collection, secure storage and analysis of data from DFSC-funded programs, and to interact with and assist in aligning efforts to improve measurements of the impact of diabetes and its complications throughout South Carolina. In preparation for this work, we have developed data collection tools (including REDCap surveys) for our funded programs and have undertaken advanced planning for a cloud-based repository to house DFSC-project data and accommodate data from other BlueCross Foundation projects.

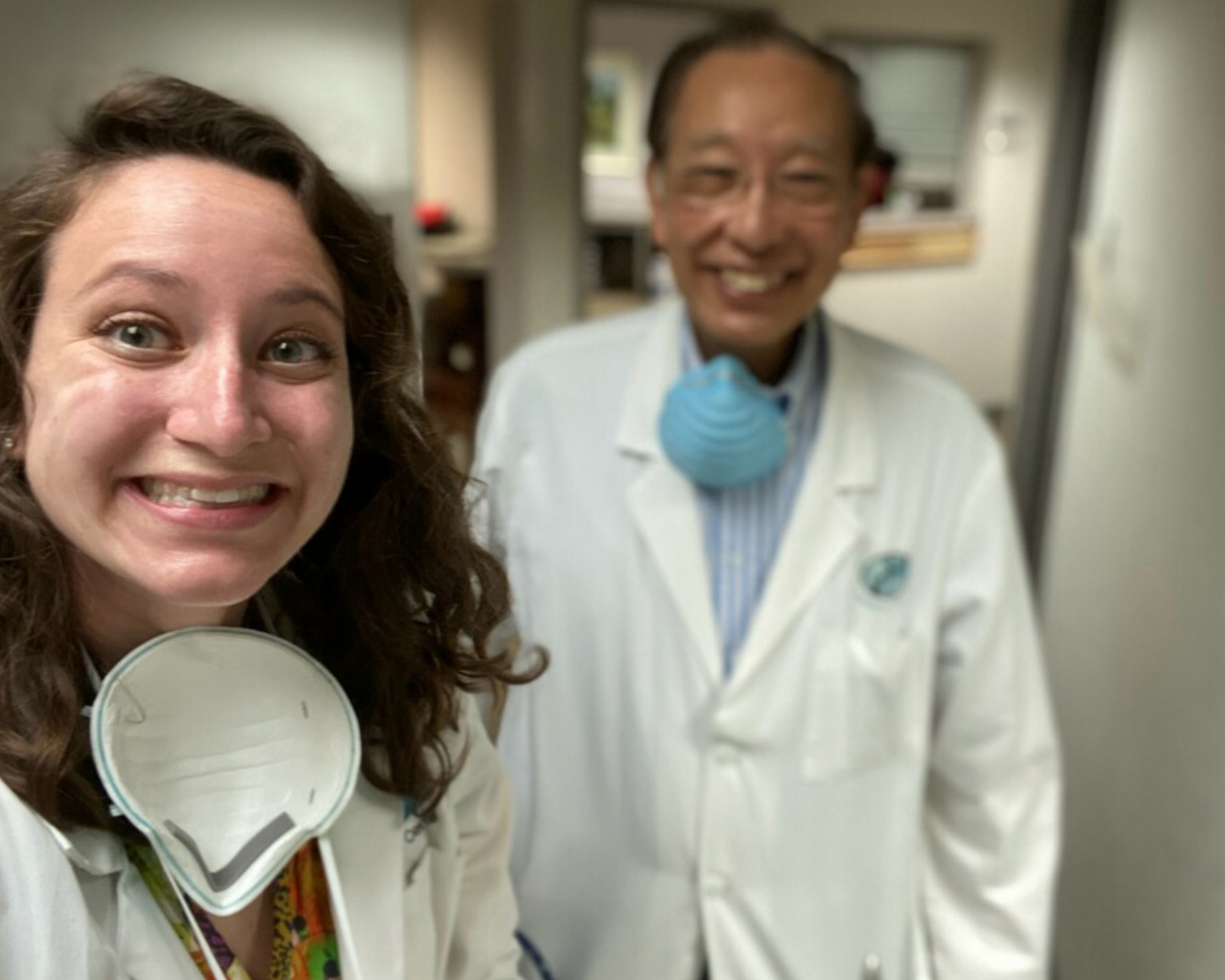
We submit this report with gratitude and appreciation for the vision and support we have received from BlueCross leadership, and from the BlueCross Foundation board and staff. We believe all funded projects are progressing well, and we look forward to the challenges and opportunities 2021 will bring.



Timothy Lyons  
*Executive Medical Director*



Noreen O'Donnell  
*Program Director*



# OVERVIEW



Left photo: Dr. Usah Lilavivat (Endocrinologist, Carolina Diabetes and Kidney Center) and Makala Smith, RD, CDE (Carolina Diabetes and Kidney Center).

Diabetes Free SC (DFSC) is a long-term, statewide initiative that aims to transform the health of all South Carolinians. A key aim of the initiative is to support and align existing efforts against diabetes to gain efficiencies of scale and to foster collaboration. In addition, DFSC aims for statewide, population-level change through innovative strategies that maximize new technologies. Funding for the initial DFSC projects described in this report comes from the BlueCross BlueShield of South Carolina Foundation; accordingly, there is a major focus on health disparities and on improved health for underserved communities.

DFSC was developed with a planning group that included representation from the Alliance for a Healthier South Carolina, the South Carolina Department of Health and Environmental Control, BlueCross BlueShield of South Carolina, and the BlueCross BlueShield of South Carolina Foundation. Three strategic directions and five guiding principles were defined:

### **Strategic Directions of Diabetes Free SC:**

1. Improving pregnancy outcomes in women with diabetes
2. Reducing lifelong risk of diabetes in children
3. Preventing diabetes and its complications in adults

### **The Guiding Principles of Diabetes Free SC:**

1. Implement an innovative, multipronged statewide program
2. Align, develop and bring to scale existing programs that have proven local efficacy
3. Focus on early intervention to prevent or mitigate diabetes and its complications
4. Improve quality of data (a) to define size of problem and (b) to assess efficacy of DFSC programs
5. Ensure relevance to major challenges facing the nation: COVID-19 and health/racial disparities

### **Strategic Partnerships**

DFSC has formed working partnerships with groups and programs across the state that align with and buttress the DFSC strategic directions:

- BlueCross BlueShield of South Carolina Foundation
- FitnessGram Advisory Council
- Diabetes Initiative of South Carolina (DSC)
- Diabetes Advisory Council of South Carolina (DAC)
- South Carolina Birth Outcomes Initiative – Access and Care Coordination Workgroup



## Improving pregnancy outcomes in women with diabetes

*Long-term impact for moms and babies*

Two multidisciplinary prenatal programs for diabetic women have been funded, each for three years. After a period of planning, ensuring compliance with regulatory requirements, and recruiting, the new DFSC programs are now operational, providing services to women with diabetes in brick and mortar facilities. These facilities serve the Columbia/Sumter area (Prisma Midlands, opened September 2020) and Greenville (Prisma Upstate, opened October 2020). Both emphasize innovative integrated care, convenience for patients, and the use of new technologies to enable high-quality care for women with diabetes.

At each location, the staff includes maternal-fetal medicine (MFM) specialists, endocrinologists, nutritionists, diabetes educators, patient navigators, biostatistical and telemedicine specialists, and a behavioral health/psychology specialist. Team-based care is delivered, enhancing communication among providers and, by consolidating visits, enhancing feasibility for patients. Each program is supported by clinic staff and administrators from participating clinical departments. On-site retinal screening will be added within weeks. A detailed REDCap survey is in place to document clinical, biochemical, behavioral, social and economic metrics



Left photo: Dr. Usah Lilavivat (Endocrinologist, Carolina Diabetes and Kidney Center), Dr. Berry Campbell (Maternal Fetal Medicine Specialist, Prisma Midlands and Chair of Obstetrics at USC) and Makala Smith, RD, CDE (Carolina Diabetes and Kidney Center).





Staff at the Prisma Upstate MOMs Diabetes Program:  
Front row left: Dr. Priscilla Escalona – Endocrinologist;  
Hannah White – Registered Dietitian; Diabetes Educator  
Kathy Fincher – Registered Dietitian; Diabetes Educator  
Cara Ruffman – Registered Nurse; High-Risk OB  
Center Coordinator Megan Schellinger – MFM, OB  
Center Medical Director.  
Back row left: Jessica Odom – Clinical Pharmacist; Diabetes Educator  
Chris Turnbull – High-Risk Nurse Practitioner.

to enable outcome analyses. Plans to extend reach to rural and underserved communities are in active development. Telemedicine services will be deployed for this purpose in Years 2 and 3.

Specific goals include the following:

1. Improve hemoglobin A1C throughout pregnancy from estimate of 20 percent in target (A1C < 7%) to 50 percent in target.
2. Normalize gestational weight gain (GWG) in greater than 50 percent of women. *Currently in the general population, only 24 percent of Caucasian and 35 percent of African American women in South Carolina meet GWG goal. While some have inadequate GWG, excessive GWG is observed in 49 percent of Caucasians and 41 percent of African Americans overall – and is more frequent in women with diabetes.*
3. Reduce unplanned maternal hospital admissions by at least 50 percent.

In keeping with our mission to align actions against diabetes, DFSC has developed connections with key similarly focused organizations to strengthen the overall goal of improved birth outcomes statewide. For example, the Medical University of South Carolina has deployed the same multidisciplinary approach with its Management Of Maternal (MOMs)



Diabetes Program, which launched April 2020 and is supported by the Duke Endowment. Close work with this program expands the reach of specialty care to pregnant women with diabetes to three primary areas of the state: Upstate, Midlands and Lowcountry.

We have also engaged with Project ECHO, or Extension for Community Healthcare Outcomes, an MFM group whose focus is on improving outcomes in pregnancy. The goal of Project ECHO is to break down the walls between specialty and primary care by linking experts at an academic hub with primary care doctors and nurses in nearby communities. This effort is led by department chairs of obstetrics and gynecology at both MUSC and the University of South Carolina. Both are fully committed advocates for change, and both are engaged in DFSC programs.



In addition, Dr. Tim Lyons and program leadership in both Columbia and Greenville are actively participating in the South Carolina Birth Outcomes Initiative (BOI), where Lyons now co-chairs the Access and Care Coordination committee. BOI's established advocacy infrastructure will be used to pursue program sustainability through improved Medicaid reimbursement post-partum.

### **INVESTMENT: \$3,443,407 OVER THREE YEARS**

**Impact:** On any given day, there are approximately 3,000 diabetic women in South Carolina who are pregnant. Though our programs are only in their infancy, they have already engaged more than 180 patients. In the next two years, we aim to provide improved care to numbers that will convincingly document program efficacy.

Clearly, after less than two months, it is too soon to determine outcome metrics at these two centers. For reference, however, we can consider results from the first 60 patients in MUSC's MOMs Diabetes Program:

- Although A1C values at enrollment have generally been very high, once in the program, 58 percent of A1C values from 15 weeks gestation to term have been in the target range.
- Among the small number of women who have already been delivered, 67 percent of Caucasians but only 29 percent of African Americans achieved target gestational weight gain. The prevalence of excessive gestational weight gain was 33 percent and 43 percent respectively in these groups. These numbers are better for white women and about the same for African Americans compared with published statewide data for the population in general.



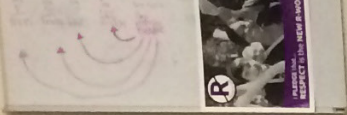
Left photo: Dr. Timothy Lyons, DFSC Executive Medical Director and Co-chair of the Access and Care Coordination Committee, South Carolina Birth Outcomes Initiative.



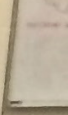
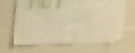
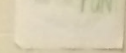
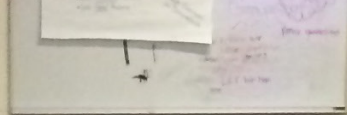
While preliminary, these data represent significant improvement in blood sugar control over published current estimates and a promising trend for gestational weight gain, especially in the context of diabetes.

Achieving a sustainable multidisciplinary program will depend on several factors:

1. We must demonstrate efficacy of our programs in improving pregnancy outcomes. While our initial data is positive, our new data collection protocol in Years 2 and 3 will yield detailed outcomes for a much larger and more meaningful number of pregnancies. We are confident of very positive findings and intend to disseminate these locally and nationally to create an irrefutable case for changing standards of care.
2. We must advocate for and secure improved reimbursement for the services of all multidisciplinary team members. Demonstration of program efficacy to providers, patients and payors (private and public) will be essential. An integrated, uniform message from different specialists will strengthen the case. We are working to hold strategy planning meetings with our grantees, BOI and other key stakeholders statewide.
3. We must advocate for permanent systemic changes so matters of critical importance to the future of our state and nation can be addressed effectively. High-quality care for diabetic pregnancy (and other high-risk pregnancies) cannot remain dependent on short-term, insecure funding. Adverse pregnancy outcomes in diabetic women — whether immediately apparent (e.g., congenital malformations) or hidden (e.g., the baby's long-term risk of premature cardiovascular disease and Type 2 diabetes in adulthood) — impose enormous personal costs on families, and immense long-term financial burdens (for decades) and lost opportunities for communities, and for all of South Carolina. Policymakers must understand that the cost of action to improve pregnancy outcomes for women with diabetes is dwarfed by the cost of inaction.



- Personal Project
- Plan with Anne
- Book
- Music
- Time to Play
- Ask yourself if you
- Know
- Plan
- Plan





Left photo: The children's initiative – high school yoga class for students and staff. Right photo: elementary students planting a garden.

## Reducing lifelong risk of diabetes in children

### *Diabetes prevention through school wellness*

Support for two complementary organizations that focus on school-based wellness, the MUSC Boeing Center for Children's Wellness (BCCW) and Alliance for a Healthier Generation, aims to ensure that children across South Carolina will experience healthier school environments. This will be accomplished during the three-year grant period by addressing policy, systems and environmental challenges to increase opportunities for physical activity, and healthy eating, thus reducing risk for diabetes and other chronic diseases in adulthood. The two programs are being closely coordinated, and uniform outcome metrics will be defined, collected and analyzed to monitor progress. Innovative technologies will be developed and used to communicate with children and school staff, and to collect outcome data.



### **INVESTMENT: \$2,609,484 OVER THREE YEARS**

**Impact:** Over the three-year grant period, Alliance for a Healthier Generation and MUSC Boeing Center for Children's Wellness have committed to recruiting and working with a combined total of 28 school districts, **impacting more than 250,000 children across South Carolina** out of a total of 800,000 public school children. Despite the uncertainty, complicated schedules and evolving learning models facing schools during COVID, formal, signed agreements have been received from **five additional school districts** and work has begun to engage school and district leaders in assessing their school environments. An **additional eight school districts** have expressed interest in joining. The school districts with firm participation commitments include 49 Title I\* schools and **serve a total of 27,710 students, of whom 62 percent are living in poverty.**

\*Title I is a federally funded education program that provides supplemental funding to school districts to support schools with large concentrations of students from low-income families.



## Preventing diabetes and its complications in adults

### *Prevention through healthy eating*

The largest DFSC program (in terms of funding) provides five years of support for FoodShare South Carolina. The goal is to enable access to healthy fresh fruits and vegetables to South Carolinians who have limited access to healthy food. DFSC will prioritize individuals and families who receive Supplemental Nutrition Assistance Program (SNAP) benefits. As of 2018:

- 54 percent of South Carolinians fell below the SNAP eligibility threshold of 130 percent of Federal Poverty Level.
- Almost 12 percent of adults and more than 16 percent of children in South Carolina are food insecure.

The COVID-19 pandemic has had a tremendous impact on employment and food insecurity. Current analysis shows a projected 46 percent and 59 percent increase in overall and child food insecurity between 2018 and 2020, respectively.



A healthy diet is foundational for the prevention and management of diabetes and its complications. With around 1.6 million adults in the state with diabetes or pre-diabetes, scaling opportunities for access to healthy food statewide is critical. The funding provided will enable FoodShare South Carolina to expand to all areas of the state, especially in rural and underserved communities.



Left and right photos: Volunteers from FoodShare South Carolina packing food for South Carolinians who have limited access to healthy food.





  
**FOODSHARE**  
SOUTH CAROLINA  
FEEDING A NEED IN OUR COMMUNITY

 **It's more than just a box of food.™**  
A program of  
The School of Medicine  
Columbia

  
**FOODSHARE**  
SOUTH CAROLINA  
FEEDING A NEED IN OUR COMMUNITY

 **It's more than just a box of food.™**  
A program of  
The School of Medicine  
Columbia

  
QUEEN

  
**FOODSHARE**  
SOUTH CAROLINA  
FEEDING A NEED IN OUR COMMUNITY

EXIT



**INVESTMENT: \$5,324,528 OVER FIVE YEARS**

**Impact:** During the five-year grant period, FoodShare South Carolina has committed to expanding fresh produce box distribution from **seven counties to 34 counties**. Since grants were awarded in June 2020, expansion to an **additional six hubs** is underway:

County	SNAP-Eligible Population	Food Insecurity (2020 estimates)		Estimated Diabetes Prevalence (2016)
		Adult	Child	Adult
Allendale	81%	23%	36%	17%
Berkeley	51%	15%	22%	13%
Chesterfield	71%	19%	29%	17%
Lancaster	51%	15%	24%	15%
Marion	79%	21%	31%	22%
Marlboro	74%	22%	34%	18%

**Fresh produce box distribution** that has occurred at the existing FoodShare South Carolina locations since the grant period started:

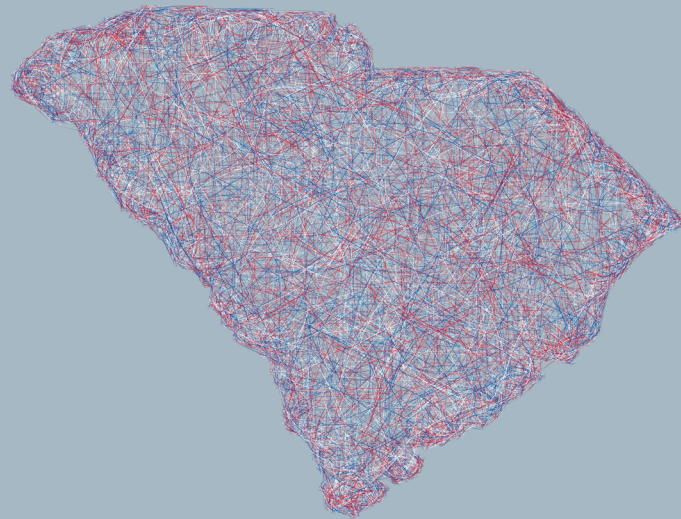
County	June	July	August	September
Richland	1,589	2,045	1,403	1,383
Spartanburg	542	787	340	464
Greenville	2,446	2,171	1,359	1,720
Orangeburg	251	509	171	34
Bamberg	184	309	143	72
Kershaw	0	48	37	130
Lee	801	205	206	89
<b>TOTAL</b>	<b>5,813</b>	<b>6,074</b>	<b>3,659</b>	<b>3,892</b>

# LOOKING FORWARD



Diabetes Free SC is a bold, long-term initiative. Reducing health care disparities in South Carolina by drastically reducing the incidence of diabetes and its complications will take time. It will require shifts in our ingrained structures and culture. It will take collaboration and

commitment. We appreciate the alliances we've built in just our first year, and we look forward to the journey ahead, cultivating additional partnerships with like-minded visionaries and innovators as we work toward a healthier South Carolina for all.



BlueCross BlueShield of South Carolina and the BlueCross BlueShield of South Carolina Foundation are independent licensees of the Blue Cross Blue Shield Association.