

**Award Number:**  
W81XWH-11-2-0164

**Title:**  
Southeastern Virtual Institute for Health Equity and Wellness (SEVIEW), Phase 2

**Principal Investigator:**  
Sabra C. Slaughter, PhD

**Contracting Organization:**  
Medical University of South Carolina (MUSC)  
Charleston, South Carolina 29425-0001

**Report Date:**  
September 2016

**Type of Report:**  
Annual Report

**Prepared For:**  
U.S. Army Medical Research and Materiel Command  
Fort Detrick, Maryland 21702-5012

**Distribution Statement:**  
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<b>REPORT DOCUMENTATION PAGE</b>			<i>Form Approved</i> <i>OMB No. 0704-0188</i>		
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<b>1. REPORT DATE</b> September-2016		<b>2. REPORT TYPE</b> Annual Report		<b>3. DATES COVERED</b> 1 September 2015 – 31 August 2016	
<b>4. TITLE AND SUBTITLE</b> Southeastern Virtual Institute for Health Equity and Wellness (SEVIEW) Phase II			<b>5a. CONTRACT NUMBER</b>		
			<b>5b. GRANT NUMBER</b> W81XWH-11-2-0164		
			<b>5c. PROGRAM ELEMENT NUMBER</b>		
<b>6. AUTHORS</b> Sabra C. Slaughter, PhD: SE VIEW PI Tracey W. Smith, MHA: SE VIEW Program Manager Co-investigators: SE VIEW Project Directors  email: slaughsc@musc.edu			<b>5d. PROJECT NUMBER</b>		
			<b>5e. TASK NUMBER</b>		
			<b>5f. WORK UNIT NUMBER</b>		
<b>7. PERFORMING ORGANIZATION NAME AND ADDRESS</b> Medical University of South Carolina 19 Hagood Avenue, Suite 408 Charleston, SC 29425-0001			<b>8. PERFORMING ORGANIZATION REPORT NUMBER</b>		
<b>9. SPONSORING/MONITORING AGENCY NAME &amp; ADDRESS</b> U.S. Army Medical Research and Materiel Command Fort Detrick, Maryland 21702-5012			<b>10. SPONSOR/MONITOR'S ACRONYM</b>		
			<b>11. SPONSOR/MONITOR'S REPORT NUMBER</b>		
<b>12. DISTRIBUTION/AVAILABILITY STATEMENT</b> Approved for public release; distribution unlimited					
<b>13. SUPPLEMENTARY NOTES</b>					
<b>14. ABSTRACT</b> SEVIEW Phase II, its Co-investigators and Administrative Core have completed Year 5 of the additional community-based research and service outreach programs. A 12-month no cost extension (NCE) has been approved for FY17 (September 1, 2015 – August 31, 2017). The purpose of SEVIEW is to discover and deliver innovative health care and community capacity building solutions for underserved populations. An additional targeted outcome is to reduce the rejection rate as well as improve the enlistment opportunities and tenure of active duty military personnel.  The Administrative Core delivered operations, infrastructure access, strategic consultation, and quality process support to ensure proper directions, logistics, financial transactions, regulatory compliance, collaborative exchange, community-capacity building, and alignments with the goals of programmatic synergies and streamlining administrative processes and to foster strategic partnerships and programs to address the burden of health disparities.  This report is a case study approach that presents the outcomes of the seven community-based research and service outreach programs that comprised SE VIEW Phase II. It presents quantitative data gathered over the Phase II grant period (2011–2016) to document programmatic impacts and employs case study, which delivers a more nuanced assessment of the challenges SE VIEW programs faced and lessons learned.					
<b>15. SUBJECT TERMS</b> Health Disparities, Cancer, Obesity, Diabetes, Cardiovascular Community					
<b>16. SECURITY CLASSIFICATION OF:</b>			<b>17. LIMITATION OF ABSTRACT</b> UU	<b>18. NUMBER OF PAGES</b> 35	<b>19a. NAME OF RESPONSIBLE PERSON</b> USAMRMC
<b>a. REPORT</b> U	<b>b. ABSTRACT</b> U	<b>c. THIS PG</b> U			<b>19b. TELEPHONE NUMBER (including area code)</b>

**Table of Contents**

Introduction to SE VIEW.....4

Body.....5

Key Research Accomplishments and Reportable Outcomes for Each of the Following:

    Junior Doctors of Health.....7

    STEER Away From Alcohol and Drugs.....11

    Providing a Medical Home for Underserved Children in Williamsburg County via Telemedicine .....13

    CBPR to Improve Oral Health.....17

    Patient Risk Assessment and Health Education with Computer Kiosks in Community Health Centers. 21

    Health Information Exchange.....25

    Evaluating a Media Strategy – Closing the Gap in Healthcare, Inc. (CGHI).....27

Summary Analysis and Conclusions .....32

Appendix.....35

## Introduction

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South Carolina and other Southeastern states share a disproportionate burden of chronic diseases, including diabetes, hypertension, cancers, metabolic syndrome and periodontal disease. The rural nature of the region compounds issues of healthcare access and delivery, while racial, ethnic and socioeconomic disparities amplify the prevalence and complications associated with chronic illness. The Medical University of South Carolina (MUSC) endeavored to address these burdens through the formation of the Southeastern Virtual Institute for Health Equity and Wellness (SE VIEW). Launched in 2011, this five-year cooperative agreement was awarded and administered by the U.S. Army Medical Research and Materiel Command (USAMRMC) and the Telemedicine and Advanced Technology Research Center (TATRC), Fort Detrick, Maryland, under contract number W81XWH-11-2-0164.

SE VIEW's ambitious intent was to mobilize a nationally recognized, multidisciplinary, team of researchers, educators, outreach professionals and laypersons equipped with the tools and information to actively reduce health disparities. SE VIEW aimed to discover and deliver innovative health care and community capacity building solutions for underserved populations. An additional target was to reduce the rejection rate and improve the enlistment opportunities and tenure of active duty military personnel. The grant targeted the I-95 Corridor and the Coastal Carolina communities, with specific focus on the Sea Island Gullah population and Williamsburg County. These communities represent the racial, ethnic and socio-demographic populations most affected by health disparities.

Under the direction of Principal Investigator Sabra C. Slaughter, PhD., who also served as Director of the SE VIEW Administrative Core (SEVAC), SE VIEW funded 14 community-based research and service outreach programs designed to reduce health disparities in its first year of implementation (Phase I). Then, to strengthen and expand its scope, SE VIEW funded seven additional projects (Phase II, awarded in September 2011 under Contract Number: W81XWH-11-2-0164). All Phase I and Phase II SE VIEW projects held to these overarching goals:

- Increase awareness of the underlying causes of chronic diseases in the region.
- Develop novel methods to engage communities in the prevention and treatment of chronic diseases.
- Develop community-based services and research initiatives focused on chronic diseases and socioeconomic factors.
- Develop a range of youth-based, active and interactive, electronic modalities to increase the prevention, detection and treatment of chronic diseases.
- Ultimately, to reduce the rejection rate and improve enlistment opportunities and tenure of active duty military personnel.

The 14 programs in Phase I were evaluated over the grant period (2010–2015) for outcomes by Dr. Jennifer Friday, President of The Friday Consulting Group, LLC. Findings on the efficacy and successes of the 14 Phase I programs were detailed in Dr. Friday's evaluation report published on June 30, 2015.<sup>1</sup>

The evaluation report in hand presents the outcomes of the seven community-based research and service outreach programs that comprised SE VIEW Phase II. It presents quantitative data gathered over the Phase II grant period (2011–2016) to document programmatic impacts and employs case study, which delivers a more nuanced assessment of the challenges SE VIEW programs faced and lessons learned.

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<sup>1</sup> [http://academicdepartments.musc.edu/seview/resources/SEVIEW\\_FinalReport\\_W81XWH-10-2-0057pdf](http://academicdepartments.musc.edu/seview/resources/SEVIEW_FinalReport_W81XWH-10-2-0057pdf)

## Body

### Evaluation Methodology

The case study approach is particularly useful when the goal is an in-depth appreciation of an issue, event or phenomenon of interest, in its real-life context.<sup>2</sup> With careful conceptualization, thoughtful reporting, and analysis, the case study can yield powerful insights that do not rise to the surface through quantitative methods.

Case studies typically gather data through interviews, observations, and document reviews to enhance the theory-generating capabilities of the case and provide validity. In this report, the evaluator reviewed each program's quantitative data—gleaned from their respective annual reports over the grant period—and conducted interviews with the Principal Investigators in charge of each SE VIEW Phase II program. In some cases, Program Coordinators participated in the interviews. Attributes of the research case study model<sup>3</sup> that apply to this investigation are highlighted below:

SE VIEW Phase II Case Study	Attributes of the Case Study
<b>Multiple</b>	<b>Singular vs. Multiple</b> Study of one entity/event at a specific time vs. a multiple case (collective case), which focuses on more than one particular entity/event, sometimes over different time periods.
<b>Naturalist</b>	<b>Naturalist vs. Pragmatic</b> Naturalist describes a case from the ground-up, embedded in its particular context. The pragmatic case has a more focused question approach, refined iteratively through engagement with the case.
<b>Intrinsic</b>	<b>Intrinsic vs. Instrumental</b> Intrinsic focuses on particulars of one specific phenomenon rather than seeking generalizations, with the interest arising from potentially unique aspects of the case. Instrumental cases describe a specific case of a more general phenomenon.

The case study approach to evaluating SE VIEW Phase II programs presents findings in a narrative format that aims to foster discussion. Well-crafted narratives have the powerful capacity to transmit stakeholder lessons, thereby increasing the value of the findings to other entities poised to undertake similar projects to reduce healthcare disparities and enhance military service readiness. This report features integrated, contextual, multi-dimensional portraits of the seven Phase II programs, framed by SE VIEW's overarching goals.

### SE VIEW Organizational Structure

SE VIEW operated collaboratively to advance community-based research and service outreach initiatives designed to improve health conditions that preclude enlistment or reduce the functional tenure of military personnel. The concept is illustrated in **Figure. 1**

<sup>2</sup> Crowe, Sarah (2011) The Case Study Approach. BMC Med Res Methodol. 2011; 11: 100. Published online 2011 Jun 27. doi: 10.1186/1471-2288-11-100

<sup>3</sup> Yin, R. K. (2009). Case study research: Design and methods. SAGE Publications: Thousand Oaks, CA.

**SEVIEW Goals**

**GOAL A.**

Integrate MUSC’s model initiatives focused on health disparities into SEVIEW by identifying programmatic synergies and streamlining administrative processes. Under Goal A, a single Administrative and Coordinating Core was established to oversee project logistics, financial transactions, regulatory compliance and bi-directional communications. An Evaluation & Tracking Core was also formed to monitor SE VIEW activities and provide feedback to improve program quality.

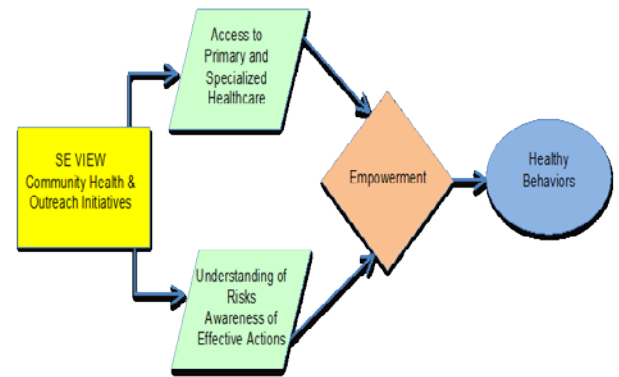
**GOAL B.** Develop strategic partnerships and programs to address the burden of health disparities. Under Goal B, SE VIEW funded educational programs, preventive medicine, health and wellness programs, and community partnerships and outreach programs to actively reduce health disparities.

**The seven Phase II SE VIEW programs evaluated in this report:**

- *Junior Doctors of Health (JDOH)*
- *STEER Away from Alcohol and Drugs (STEER)*
- *Providing Medical Home for Underserved Children in Williamsburg Co. via Telemedicine*
- *Community-based Participatory Research to Improve Oral Health (CBPR)*
- *Patient Risk Assessment & Health Ed. with Computer Kiosks in Community Health Ctrs.*
- *Healthy People in Healthy Communities – Health Information Exchange (HIE)*
- *Evaluating a Media Strategy – Closing the Gap*

Each of the above programs was actively aligned under three SE VIEW domains 1.) Educational programs 2.) Preventative medicine, health and wellness programs and 3.) Community partnerships and outreach programs. The following tables highlight the demographics across the lifespan served by each program (**Table 1**), the varied strategies each program used (**Table 2**) and the health condition(s) each program targeted (**Table 3**).

**Figure. 1**



OBJECTIVES/APPROACHES	STAGES OF LIFE		
	Children	Adolescents	Adults
<b>B1 EDUCATIONAL PROGRAM TO REDUCE HEALTH DISPARITIES</b>			
Junior Doctors of Health			
<b>B2 PREVENTIVE MEDICINE, HEALTH AND WELLNESS PROGRAMS</b>			
STEER Away from Alcohol and Drugs			
Providing a Medical Home for Underserved Children via Telemedicine			
<b>B3 COMMUNITY PARTNERSHIPS AND OUTREACH PROGRAMS</b>			
Healthy People in Healthy Communities			
Evaluating a Media Strategy – Closing the Gap			
CBPR to Improve Oral Health Disparities			
Patient Risk Assessment & Health Ed. w/ Computer Kiosks in CHCs			

**Table 2. SEVIEW's Cross-cutting Community Engagement and Empowerment Strategies**

OBJECTIVES/APPROACHES	STRATEGIES				
	CBPR	Health IT	Health Literacy	Tele-Medicine	Work-force Dev
<b>B1 EDUCATIONAL PROGRAM TO REDUCE HEALTH DISPARITIES</b>					
Junior Doctors of Health					
<b>B2 PREVENTIVE MEDICINE, HEALTH AND WELLNESS PROGRAMS</b>					
STEER Away from Alcohol and Drugs					
Providing a Medical Home for Underserved Children via Telemedicine					
<b>B3 COMMUNITY PARTNERSHIPS AND OUTREACH PROGRAMS</b>					
Healthy People in Healthy Communities					
Evaluating a Media Strategy – Closing the Gap					
CBPR to Improve Oral Health Disparities					
Patient Risk Assessment & Health Ed. w/ Computer Kiosks in CHCs					

**Table 3. SEVIEW's Strategic Targets for Reducing Health Disparities**

OBJECTIVES/APPROACHES	REPRESENTATIVE HEALTH DISPARITIES TARGETS									
	Primary Care	AD / Aging	Cancer	Diabetes	Heart Dis & Hypertension	HIV/AIDS	Obesity	Oral Health	Substance Abuse	Stroke/Critical Care
<b>B1 EDUCATIONAL PROGRAM TO REDUCE HEALTH DISPARITIES</b>										
Junior Doctors of Health										
<b>B2 PREVENTIVE MEDICINE, HEALTH AND WELLNESS PROGRAMS</b>										
STEER Away from Alcohol and Drugs										
Providing a Medical Home for Underserved Children via Telemedicine										
<b>B3 COMMUNITY PARTNERSHIPS AND OUTREACH PROGRAMS</b>										
Healthy People in Healthy Communities										
Evaluating a Media Strategy – Closing the Gap										
CBPR to Improve Oral Health Disparities										
Patient Risk Assessment & Health Ed. w/ Computer Kiosks in CHCs										

**Key Research Accomplishments and Reportable Outcomes**

**Case Study – Portraits of the Programs**

To provide background and context, key quantitative outcomes and program accomplishments are highlighted first, followed by the case study narrative derived from interviews with Principal Investigators and some Program Coordinators. The interview protocol was designed to investigate situational factors that impacted program implementation and produce a deep matrix of lessons learned that can inform and refine best practices.

**Junior Doctors of Health (JDOH)**

**PI:** Mary P. Mauldin, EdD., Office of Instructional Technology & Faculty Resources

**Target:** Children, adolescents, teachers and parents

**Summary:** MUSC students served as mentors delivering a dynamic curriculum that taught children to track eating and exercise habits. Classroom teachers were engaged as healthy role models, participating with the children in exercise programs and pedometer competitions. Parents were cultivated as active participants in workshops and family health activities. Additionally, JDOH engaged adolescents in a Leadership Program (LP),

which included learning about health-related careers and service-learning opportunities. During the grant period, the leadership revised the JDOH curriculum to meet state education/core standards.

### Quantitative Outcomes

- JDOH delivered the curriculum to an increasing number of youth over the grant period (N=529 in 2011; N=737 in 2012; and N=787 in 2013). Adolescent enrollment in the LP also increased (N=33 in 2011; N=47 in 2012; and N=54 in 2013) for a total of 134.
- Between 2011-2015, a total of 546 university students from a wide range of disciplines and institutions delivered JDOH presentations at public schools and community sites across South Carolina.
- JDOH offered free weekly exercise classes at school and community sites, (73 participants in 2011; 46 participants in 2012; and 51 participants in 2013).
- JDOH's Family Workshops, taught by MUSC Dietetic Interns, reached 350 family members across 10 school/community sites in the Charleston area between 2011-2015. Topics included *Limiting Sugar Sweetened Beverages*, *Heart Healthy Cooking*, *Grocery Shopping on a Budget*, *Healthy Summer Grilling*, and *Healthy Soul Food*.
- In 2012, 15 parents and 13 youth participated in JDOH's Parent and Child five-week exercise program of yoga and cardio kickboxing.

### Accomplishments and Partnerships

- Collaborated with Charleston Southern University's Health Promotion and Kinesiology Department and the College of Charleston to provide students with JDOH internship opportunities.
- Increased the number of health professions represented as JDOH presenters by offering the program as part of the University of South Carolina course, "Nutrition through the Lifecycle" (HPEB 620), and as class projects in Physical Therapy, Physician Assistant, and Occupational Therapy courses at the university.
- Presented about the JDOH program at two professional conferences in 2014, highlighting expansion to other universities and sites. As a result, 38 individuals from 17 states expressed interest in bringing JDOH to their respective areas.

## PORTRAIT

Principal Investigator Mary Mauldin, Ed.D., and JDOH Program Coordinator Kelli Jenkins credit Dr. Scotty Buff with launching JDOH in 2004 with the aim of teaching students in low-income schools about nutrition, exercise and health care careers. Kelli joined in 2008 and Elana Wells was later hired to make the curriculum more interactive.

### Effective Recruitment

Student mentors were the lifeblood of JDOH; they presented the interactive curriculum at community schools and bonded with the young students they met. Consequently, maintaining a steady flow of enthusiastic, trained student mentors was critical to the program's success. Initially, students learned about the mentoring opportunity through word-of-mouth, inspired by those who had already done it. But it was important for JDOH to identify a more efficient recruitment mechanism. Kelli Jenkins described how they found the "perfect fit" for recruitment via the class project format within MUSC's biological science departments: "*When professors require students to complete a community project, they don't have to do anything except connect the students to us. We train them and they get the required hours presenting the JDOH curriculum in the classroom.*"



Engineering this synergistic recruitment loop within the university system freed JDOH staff to focus more on training and expanding to new sites.

## **Training**

Kelli Jenkins and Elana Wells typically acted out the JDOH curriculum with their MUSC student recruits so they had a feel for how it worked in real classroom settings. Many had never worked with young children before and were apprehensive. At first, the mentors were printing out reams of research to bring along. Kelli noted that having such material at hand seemed to make them feel more secure, but it was not a good fit for their young audiences:

*“We had to go back and say, ‘Wait! These are kindergartners!’ So, we got some of the teachers to give us tips on how to relate to young kids, things like sitting on the floor with them and using games and items already in the classroom.”*

Over time, JDOH incorporated these tips and smart boards into the training and classroom presentations, which pleased the young students and increased the mentors’ competency in carrying out the JDOH mission.

Student mentors typically delivered three, one-hour sessions over the target school’s academic semester or the duration of the course for which they were completing community service hours. Positive feedback from student mentors after the sessions helped to fuel the recruitment pipeline:

*“They enjoyed it so much they wanted it to continue for a year. They loved being at the school, loved being with the kids and developing those relationships.”*

## **Adaptability**

Each JDOH site had different needs and the team learned to make flexibility an asset. In Charleston, where the program originated, it was hard to implement in the afterschool setting due to scheduling conflicts with the student mentors. At other sites, afterschool programming worked well:

*“We just had to remind ourselves with each site that it would work out as long as we were flexible with our student mentors’ time and the classroom time.”*

Flexibility and roots in the community proved critical to program expansion. When JDOH couldn’t get a foothold at Burke Middle/High School due to high staff turnover, they tried a different tact:

*“As an alum of this school, Kelli knew the JROTC instructor. We sat down with him and built trust. He gave us entry to meet with the principal and guidance counselor. Once we showed them we were here to stay, it became a lot easier to implement the program.”*

When one of the schools asked JDOH to incorporate tutoring into the program, the leadership responded by having the mentors provide extra academic support in reading, math, science and social studies. Although they had to cut back on some aspects of the original JDOH curriculum to make time for the requested tutoring, the leadership’s readiness to accommodate the needs of the school kept the program welcome and viable at each of its sites.

## **Targeting the Whole Child**

JDOH offered something of value not only to students, but to teachers and parents as well. A leadership program (LP) of eight, one-hour sessions was created for older students who had shown initiative. Student

mentors gave more time to developing relationships with LP students, benefitting both the mentors and the leadership participants, some of whom *“liked it so much they wanted to repeat the course.”*

JDOH offered exercise classes for teachers, demonstrating that the program was also about action. Teachers liked that the exercise classes were held right after school, on site, which made them more likely to attend, and they requested more sessions per week. Having teachers show students, through their own example, the health benefits of regular exercise put the tenets of the JDOH curriculum into practice.

JDOH reached out to parents through nutrition workshops facilitated by MUSC dietetic interns, and was careful to avoid the cultural pitfalls that sometimes hobble these types of presentations:

*“When a group like ours facilitates workshops, parents may get the message that we’re telling them how to raise their children. So, we actually incorporated parents into the work. At every workshop, we encouraged parents to help with the featured meal and suggest ways to make it. We encouraged them to include their children in an effort to change eating habits—taking the kids along to the grocery store to pick out healthy items and let them help prepare the meal. That way, the parents remain in charge but the child participates and is more likely to eat the food since they had a hand in preparing it.”*

Parent feedback on the nutrition workshops revealed that children who were initially uninterested in cooking started making grocery lists and suggesting healthier meals. This aspect of the JDOH program confirmed, *“parents buy what their children like, so with the children’s influence, suggesting mom buy apples instead of potato chips, it really worked at home.”* The data showed that students in the program were walking and exercising more and encouraging their parents to exercise with them.

### **Replication and Sustainability**

Dr. Mauldin and Ms. Jenkins have received numerous requests from former MUSC student mentors and others wanting to replicate the JDOH program or use components of it with the populations they were serving. The leadership accommodates by broadly sharing the JDOH curriculum electronically. They estimated that, to date, the JDOH program or portions of it have been duplicated in 10 to 15 sites across South Carolina and in neighboring states:

*The program itself takes a lot of manpower, but if you have a centralized area with a ready cohort of students, it’s very easy to replicate and make a strong impact.”*

In terms of JDOH sustainability, Dr. Mauldin points to the mutual benefits that stakeholders would derive from making the program an integral part of university-level health science majors. The classroom project model, under the auspices of MUSC or any institution of higher learning, satisfies the students’ need for community services hours, training, and structured community service, while supplying JDOH with a steady stream of motivated mentors.

### **Lessons Learned**

Dr. Mauldin and Ms. Jenkins described challenges with the program’s complicated consent forms, requiring multiple signatures in multiple places and duplicate copies:

*“Sending the forms home, we got back just over a half and even some of those were incomplete. So, we learned that you have to be there to explain the project to parents and show them where they need to sign and where the child needs to sign.”*

The work-around JDOH implemented—going to school events to guide parents and children through the consent process—was labor-intensive, but the effort ensured that JDOH had sufficient participation to remain viable.

### STEER Away from Alcohol and Drugs

**Principal Investigator:** Deborah Deas, MD, MPH, Professor, Dept. of Psychiatry and Behavioral Sciences, MUSC

**Co-Investigator:** Sarah Book, MD, Associate Professor of Psychiatry and Behavioral Sciences; Medical Director, Center for Drug and Alcohol Programs, Addiction Sciences Division, MUSC

**Project Managers:** E'lisha Simmons Hobson, Shameeka Bowman

**Target:** Children, Adolescents and Adults

**Summary:** STEER (Screening / Training / Educating / Evaluating / Referral) addressed health disparities in access, education, and treatment for substance abuse in minority, rural, underserved and at-risk populations in Charleston, Dorchester, Berkeley and Williamsburg counties (along the I-95 corridor). STEER used evidence-based tools with individual participants to evaluate program impacts on participants' knowledge base, behaviors and patient health indices. By establishing partnerships with local schools, colleges, and businesses, STEER's multimodal approach achieved the following impacts:

**Aim 1: Screen and offer addiction treatment resources to minority, rural, underserved individuals (18 years and older) at local health fairs and community centers.**

- Screened 156 individuals who completed the Drug Abuse Screening Test and/or the Alcohol Use Disorders Identification Test.

**Aim 2. Educate community leaders, counselors and middle and high school students about drug and alcohol use and abuse.**

- Adapted materials provided by the National Institute on Drug Abuse to the target populations and distributed them at health fairs and education presentations on such topics as “The Science of Addiction and Myths about Drugs,” and providing accurate facts about commonly abused drugs including bath salts, alcohol, synthetic marijuana, and marijuana.
- Made presentations at 45 community locations. Thirty people participated in education sessions and 155 completed pre- and post-tests documenting an increase in knowledge and self-awareness about substance abuse.

**Aim 3: Train key personnel in clinical settings and community locations through “Train the Trainer” and equip them with information about treatment resources to amplify the number of personnel who can independently conduct drug screenings and offer referrals.**

- Through “Train the Trainer” workshops, the program prepared 68 individuals to screen others for risky behaviors and substance abuse. They received National Institute on Drug Abuse materials and questionnaires to use to identify symptoms of substance abuse and make treatment referrals. Pre- and post-test surveys of the 68 participants showed increased knowledge and efficacy in the subject matter.

## PORTRAIT

Co-Investigator Dr. Sarah Book and Project Manager E'Lisha Simmons participated in a joint interview for this report. Dr. Book was responsible for running STEER. E'Lisha served as Project Manager for most of the program's duration until she was promoted to Manager of Recruitment & Diversity Education at MUSC. Shameeka Bowman became Project Manager at that time.

### Outreach and Recruitment

Given STEER's train-the-trainer format, it was critical to launch with a solid cohort of participants who would then "carry the word" into their respective communities. To that end, the STEER team identified and pursued schools already involved in drug and alcohol education and reached out to church and community leaders who had expressed interest in the training as a way to serve their congregations. Initially, STEER leaders envisioned promoting the training opportunity to potential participants from health fair booths alongside other healthcare providers offering services at these community events.

### Training

The training goal was to equip participants with enough current, foundational knowledge about substance abuse that they could reliably inform others in their communities on the issue. STEER provided participants with materials from the National Institute on Drug Abuse, which they could use to enhance their toolkit. The 68 STEER trainees were actively curious and eager to understand the attributes of the street drugs pervasive in their communities.

Using PowerPoint presentations and interactive quizzes to stimulate discussion, the STEER presenters addressed a wide discrepancy in the participants' knowledge base:

*"Many adults didn't know the street names of the drugs, but the younger participants did. It was intriguing because the drugs' street names varied depending on the location. Throughout the presentation, the adults would question how the kids came up with these code names."*

Ms. Simmons incorporated rap music and video clips into STEER training to show parents the "power and authority" of social media and pop culture:

*"When you have a rapper telling you how good this drug is making him feel, and the power that he gains from taking it, that makes the kids want to try it out because a famous person is talking about it."*

Ms. Simmons provided parents with a countervailing strategy:

*"Our kids are going to tell us what they think we want to hear, but, you can get on their level by understanding what they're listening to, and say, 'Hey, that's not the whole story.' Give them something else to think on."*

Key to the training's impact was encouraging individuals to share personal experiences with the group:

*"We heard lots of stories from church folks about family members taking drugs and that they didn't know how detrimental it was. They told stories about how they dealt with it as a family, and that the resource material we provided gave them ideas and options."*

## Measuring Impact

Upon completion of STEER training, the 68 participants reported feeling more equipped to share the knowledge they gained with others in their communities. The scope of the program did not include the collection of follow-up data to document how often, or in what format, this ripple effect may have occurred. However, a youth leader confirmed her intention “*to have a frank discussion*” with the teens in her group about what she had learned, and that the training gave her helpful “*talking points*” she intended to use to springboard the conversation.

## Challenges

Although the STEER leadership envisioned outreach via health fairs, it became apparent after a few months they would have to find another way. “*People would be doing blood pressure checks and E’Lisha would be sitting there and nobody would come to her table.*” A chance interview with a news reporter about STEER, which showcased E’Lisha Simmons’s public speaking ability, paved the way for a crucial pivot in outreach strategy:

*“We started having E’Lisha take the show on the road instead of expecting people to come to us. She was going out to centers, churches and schools, and the requests for her presentation started pouring in. E’Lisha made it more interactive. She was entertaining; she told stories and really connected with people, and that created a demand for her presentation.”*

Cultural differences regarding disclosure of one’s personal travails presented another challenge. Although STEER had Spanish interpreters, the sharing format was not a good fit for some Hispanic participants:

*“The program’s benefit comes from sharing and that population had the most difficulty opening up about drug or alcohol issues they may have had. That cultural reticence got in the way of the public sharing. It wasn’t a language issue; you can talk with them, but if they don’t know you, they’re not going to be forthcoming about their issues.”*

## Lessons Learned

- Passive does not work. Proactive outreach to target audiences is essential.
- Work with a dynamic spokesperson from the community you’re trying to impact.
- Make sure the format for delivery is a good cultural fit with the target population.
- Encourage participants to take ownership of strategies that worked best for them.

### Providing a Medical Home for Underserved Children in Williamsburg County via Telemedicine

**Director:** James T. McElligott, MD    **Project Manager:** Shawn Valenta

**Target:** Children (average age 6.5 years)

**Summary:** Rural geography, combined with a limited number of health providers in Williamsburg County (along the I-95 corridor), restrict the availability of in-person visits for children, leading to elevated health care costs, medical emergencies, and morbidity. The program addressed this disparity by engaging the county healthcare infrastructure, and coupling telemedicine technology with preventive care for children through the medical home. This allowed local providers, in collaboration with MUSC personnel, to see young patients in

school settings. The Telemedicine Medical Home approach aimed to give children without primary care doctors equal access, minimize redundancy and maximize resources. The program compared mobile telemedicine units at multiple sites with fixed-site telemedicine units. Focusing on the objectives below, the Telemedicine Medical Home initiative achieved the following impacts:

**Aim 1:** Implement a school-based telemedicine clinic to provide care to elementary school-aged children in Williamsburg County when they are ill or need chronic disease management services. Integrate the school-based telemedicine clinic into the local healthcare infrastructure in a collaborative manner that improves access to care.

- The program saw 121 children via telemedicine over the grant years (2011-2015), expanding to cover all schools in the county by the end of the grant. One of the participating practices assumed responsibility for telehealth care for one of the expansion schools. The local hospital-based clinic demonstrated the viability of joint video sessions and participated in co-management of visits.

**Aim 2:** Measure the utilization and efficacy of telemedicine between healthcare providers and elementary schools in this underserved region by collecting data on the number of telemedicine visits for publically insured patients versus patients with no insurance; telemedicine visits successfully completed without needing in-person evaluation; and utilization of the telemedicine program over time (rate of use per month).

- Children with public insurance comprised more than half (59%) of the visits (12% uninsured). No visits required an in-person visit for diagnosis; five visits resulted in referrals to specialty care (initially done via telemedicine, with two resulting in referral for in-person care/laboratory visits).
- The 121 telemedicine visits were conducted over 18 months, averaging 7 visits per month for every 1000 students during the pilot period. Conditions included low-acuity illness and chronic disease.

As shown in Table 4 below, most patients had Medicaid with the remainder comprised of privately insured children (urban site) and uninsured children (rural sites).

**Table 4: Visit Types & Insurance**

	<b>Rural</b>	<b>Urban</b>	<b>Total</b>
<b>Total telehealth visits</b>	33	88	121
<b>Most common conditions</b>	Rash, asthma, pink eye	Ear pain, throat pain	Rash
<b>Average age</b>	8.5 years	5.6 years	6.5 years
<b>Insurance</b>			
<b>Medicaid</b>	59%	58%	59%
<b>Private</b>	17%	36%	29%
<b>No insurance, unknown eligibility</b>	24%	6%	12%

## Key Research Findings<sup>4</sup>

- Children in the I-95 region of South Carolina are 49% more likely to use the emergency room and 42% per more likely to be admitted as an inpatient.
- Cost analysis of Medicaid claims data (96 children in on-site and telehealth school-based programs and 6555 controls) identified an \$874 per child savings for those who utilized the school-based care. The \$874 per child is a modeled cost savings based on ER visit reduction for asthma care.
- Modeling analysis of school-aged asthmatics in Williamsburg County (N= 633) revealed that the asthmatics that utilized the emergency room at least twice in a year accounted for less than 10% of asthmatics, but 75% of the respiratory- related ER costs. Targeting this undermanaged, chronic disease in Williamsburg County with a telemedicine medical home intervention can produce significant health improvement and cost savings. These results will inform the type of asthma-specific interventions implemented in the partnering schools.

## PORTRAIT

School-based telehealth in partnership with rural medical homes has demonstrated its feasibility and raised awareness of the potential benefits of this modality. Dr. McElligott’s insights throughout the interview reflect a program well positioned for expansion.

Dr. McElligott’s noted that South Carolina’s I-95 corridor, comprised largely of poor African-American communities, had been nicknamed the “corridor of shame.” As one of the poorest and most underserved areas in the nation, it has also been characterized as “historically forgotten.” Within it lies Williamsburg County, with only one pediatrician, a handful of family doctors, a health care center, hospital, and very scant infrastructure.

During the SE VIEW grant years, the program focused on proving the feasibility of the telehealth model at two schools in Williamsburg County and a third school in Charleston. Initially, Dr. McElligott focused on bringing specialty care, but the data revealed that children in this locale had half the number of well child visits than children in counties outside the corridor. They were seen most often in the ER, signaling an unmet need for primary and preventative care, rather than specialty care. The school-based, telemedicine approach stood out as the most effective for meeting that need.

### Crucial Allies

In meetings with school staff and parents, Dr. McElligott found a *can do* attitude despite the community’s many needs. Prior, positive relationships with MUSC also helped to open doors for the proposed telehealth program:

*“They were doing the best they could for their area, and proud of the work they had done with MUSC over the years. They were warriors for their own folks, for their children, and that really made all this feasible. They brought me to the school board and made sure I went through the right channels with school leadership and helped me connect with community leaders. They were very proactive from the get go.”*

Buy-in from local family practice doctors was also critical. Dr. McElligott carefully addressed their discomfort with the change in practice, which in the end, helped bring physicians on board:

<sup>4</sup> Findings published in *Journal of Rural Health*, September 2012: McElligott JT, Summer A. “Health Care Utilization Patterns for Young Children in Rural Counties of the I-95 Corridor of South Carolina.”

*“We had to assure them we weren’t going to go beyond the scope of the standard of care via the methodology. They were concerned if the type of care would be good. We were careful in communicating that we would do our best to not fragment their medical home model, that we would let them know if the patient volumes got high and we encouraged them to participate. Two practices were contracted to see kids through the program (for labs, co-management). Being proactive about it paid off. Most of them tolerated the program just fine.”*

## **Technical and Logistical Issues**

Coordinating the use of multiple software products, video platforms, a stethoscope and exam camera to get an up close view of a child’s throat presented the first challenge:

*“When the school nurse had a kid they wanted me to see, we tried to make the video connection using all the pieces. It worked well sometimes and other times we had issues with the school’s internet capacity. But right from the beginning, we all saw the value of it, especially to the kids, so we always found a work-around. Even when there are technical issues, satisfaction with program is usually pretty high.”*

Once the program hammered out the connection issues, efforts to scale up the approach took center stage. Smaller, rural schools typically cannot afford to maintain a provider at a school-based site or have them driving to numerous schools within a radius. While telehealth alleviates that pressure, the task of lining up children at multiple schools with providers at the right times remained daunting.

After the SE VIEW grant, Dr. McElligott put a designated, in-county telepresenter in place to work with school nurses on preventative programs targeting asthma and other conditions. Then he sent out an RFP for integrated telehealth network management software that would make it easier to schedule appointments around parent and child availability. The Avizia product was selected for its capacity to service schools and offer hospital-to-hospital connectivity. Leveraging one clinician, the school nurses, and the rural coordinator, the program has since been able to grow to accommodate 20 schools with telemedicine medical homes and expansion planned.

## **Training**

After initially showing school nurses how the system functioned and doing mock visits, the team found hands-on practice to be most effective:

*“We did more in a shadowing modality where you sit together and once the person is comfortable with how it works, you sort of let them fly. I would say that the school nurses, who had to be as patient as anyone when the technology didn’t work as planned, they really felt very comfortable with it.”*

## **Challenges**

Having to seek approval from two separate IRB systems delayed the program launch by close to one year, creating a barrier to community engagement. Dr. McElligott said he was able to forge some good relationships during the delay, but acknowledged that the program lost some momentum which they struggled to regain the following year:

*“When you don’t show any progress, after getting everyone keen on the idea, the community turns its attention elsewhere.”*



## Benefits of a Changing Paradigm

Dr. McElligott was not keen on the technology when he first began practicing telehealth, but the modality's expanded capability to conduct patient follow-up won him over:

*"I saw a kid who had asthma for a brief 10-minute visit, and then it dawned on me that I could see him the next day for 10 minutes, and then the next day and the next. So when I saw him again, his meds hadn't been filled because he'd had insurance problems. Normally, I would have said, 'I'll see you in three months' and who knows what would have happened. Instead, I got into the habit of saying 'I'll see you in two days' or 'See you next week.' I was able to get him figured out much better that way. Telehealth allows us to manage and diagnose over time, rather than trying to figure it all out in a short office visit, then saying 'See ya later.'"*

## Lessons Learned

These overarching insights may inform the efforts of others implementing a school-based telemedicine medical home:

- Telehealth enables clinicians to work in the domain of the child, changing the approach to management and diagnosis. *"Telemedicine allows us to meet in the middle where we can be efficient but also go into our patients' lives. If you have a child with a rare disease and they're supposed to have a swollen joint now and then, it's better to have the parent call you from home to look at it when the child's joint is actually swollen than to hope it's swelling when they walk into your office."*
- Wellness programs triage children into care in more proactive ways. Pair episodic care with school-wide education and prevention. *"We coupled clinical care with wellness advocacy, for example, making sure the buses didn't park too close to the school entrance so the fumes didn't exacerbate kids' asthma, and getting high-risk asthmatic kids to take their meds at school to ensure they did. These things aren't paid for in a fee-for-service model, but benefit the child's wellness and prevent illness."*
- Focus on high value, not high volume; patient volume will not be quick. *"Even at our peak, we were seeing only one or two cases a week, not the 10 to 15 a day needed to support a clinic."*
- *"When you're reaching into people's lives and communities, be flexible about how you bring them the care. School-based telehealth is feasible, doable, and a wonderful experience."*

## Community-based Participatory Research to Improve Oral Health

**PI:** Renata S. Leite, DDS, MS., Assistant Professor, Dept. of Stomatology/Periodontics

**Target:** African-American Gullah population, living in the Southeastern coastal regions, directly descended from rice plantation enslaved West Africans.

**Summary:** Compared to other African American populations, the Gullah people face profound oral health (OH) disparities. Barriers that impede prevention and early treatment of OH conditions in the Gullah include rural residency, lack of insurance, low education levels, fear, and cultural experiences that contribute to distrust. The community-based participatory research (CBPR) approach actively engaged Johns Island community members in identifying barriers to oral care and implementing culturally appropriate multi-level interventions to improve oral health literacy and oral care self-management practices. Notably, the program incorporated advanced CAD/CAM technology in dental restorative procedures (CEREC system), which shortened treatment time, reduced lab fees, and provided state of the art esthetic prosthetic therapy. Using church-based strategies,

group-based education and a community oral health promoter (COHP), CBPR to Improve Oral Health achieved the following impacts:

**Aim 1: Develop a community-designed, multi-level intervention to deliver oral health education at the individual, group, and church level.**

- Tested the OH Handbook with focus groups before using with group education interventions. Formed a Church Advisory Board in the intervention church. Completed five church-level interventions (2013 - April 2014); conducted 12 peer groups, 40 one-on-one meetings with COHP.

Intervention Church	Control Church
20 participants	15 participants
19 visited community clinic for dental treatment	14 visited community clinic for dental treatment
19 completed three-month visit	10 completed three-month visit
7 completed six-month visit	7 completed six-month visit
1 terminated due to noncompliance with protocol	5 terminated due to noncompliance with protocol

**Aim 2: Evaluate intervention dosage and fidelity and monitor and measure targeted outcomes.**

- Developed intervention monitoring, supervision and fidelity protocols and forms, to ensure accurate data analysis.

**Aim 3: Measure whether the 20 participants in the intervention demonstrated improved OH, OH literacy, OH self-efficacy, decreased dental anxiety and fewer broken appointments compared to the 15 in the control group.**

- Research included in *Successes, Challenges, and Lessons Learned: Community Based-Scholarship and Community Engaged Research among the “Gullah” Population of South Carolina*. International Journal of Community Research and Engagement, 2013. 6(1): 150-169.

## PORTRAIT

### Study Design

#### Both churches

Both churches had about 100 parishioners. A dental chair was set up in each church; this is where project dentists did dental exams on the participants. If the exam revealed need, participants at both churches were referred for an appointment at Our Lady of Mercy Community Outreach (Dental) Clinic. Participants at both churches received a gas card to eliminate transportation barriers. They could also give their gas card to the church, which would arrange transport for them to their scheduled appointments. Participants at either church who required follow-up appointments would receive another gas card to cover that expense.

## Experimental Church

In the experimental church only, the team actively engaged with parishioners to address cultural and oral health literacy issues. But the study design—for church-level, group-level and individual-level interventions—was created by the community itself and voiced through the newly formed Church Advisory Board (CAB).

The CAB decided the topics and format for the once a month church-level interventions, which included:

- Sunday service presentation about oral health by Dr. Leite
- Presentation on link between oral health and mental health
- Presentation on Alzheimer’s and dementia
- Poster designed highlighting good oral health habits at church entrance
- Children’s Sunday service popcorn and movie about oral health
- Drawing and essay contest for kids with prompt, “How to keep your teeth clean”

The group-level intervention necessitated a hybrid approach. Through focus groups, Dr. Leite had learned that participants “wanted to be taught by a professional but they thought the community wouldn’t listen to me; it had to come from one of them. And that’s how we came up with the idea of training a Community Oral Health Promoter.” Dr. Leite brought in the COHP she had trained for the prior project; she was not a member of the intervention church but had roots in the community. The COHP responded to calls from participants, she called to remind them of scheduled appointments and ensure they had transportation, etc. Dr. Leite worked with the COHP to facilitate the monthly gatherings of study participants (one weekday evening, repeated for convenience on a Saturday morning) in which lively discussion of the Oral Health Handbook chapters would ensue. She found the participants “*very receptive to my presentations; they asked questions. I felt that they felt comfortable with me.*”

The individual-level intervention was comprised of one-on-one interaction with the COHP at least once a month, to go over their treatment needs and address any questions about it. During these meetings, the COHP also addressed fear of the dentist and presented fear-coping mechanisms to the participants.

In sum, participants at both churches got dental exams in the chair at their respective churches, clinic referrals, and gas cards for transportation. The control church did not get presentations, monthly group meetings, or have any contact with the COHP.

## **Challenges**

Dr. Leite had implemented a similar project in another locale so she knew that finding the right community partner in Jones Island was critical to the success of the CBPR to Improve Oral Health study. Partnering turned out to be one of the most challenging aspects of the implementation, resulting in a temporary halt to the program:

*“We started partnering with one church, but the leadership was in it for personal gain. It was made clear to me, at one point, either I got the pastor’s daughter a job at MUSC or they were out. I said, ‘OK we’re out. That’s not the goal here.’ But it was really hard to pull out of that church. The community was awesome; they needed the care and were really ready to partner with us.”*

Dr. Leite did not want to fall into that situation again: “*Getting the community all interested and then pulling out is not a good thing.*”

To that end, she approached the next potential church partners using the vetting practices found in *Are We Ready? A Toolkit for Academic-Community Partnerships in Preparation for Community-Based Participatory Research* by Jeannette O. Andrews, PhD, RN, et al. (See Appendix). Through interviews with ministers and associate ministers and listening to church members, the team cemented an “*awesome partnership*” with New Webster United Methodist Church (intervention) and the Lovely Hill Church (control).

Another challenge presented in the form of a misconception, exacerbated by a language difference. The program’s agreement with Our Lady of Mercy Community Outreach Clinic meant that participants referred by Dr. Leite from the intervention church would be quickly seen their staff dentist. The clinic wanted to increase the number of African-American patients treated because they knew the need was high, but few African-Americans were seeking treatment at this clinic and Dr. Leite’s referrals were not showing up either. They found out, by talking to people at the churches, that they thought the Clinic was just for Hispanics. The team had to make a concerted effort to dispel that misconception and counter with a message that the clinic was for the whole community. The number of African-American dental patients going to the clinic increased as a result of the team’s quick attention to this barrier.

### **Implementing Community Feedback**

The Oral Health Handbook Dr. Leite had compiled for the intervention featured cartoon-like illustrations because it was presumed that people did not like seeing graphic images of dental decay and infection. However, she quickly replaced most of the illustrations when focus group feedback revealed that participants preferred real images that made them really think about their oral hygiene, e.g., oral cancer and the effect of smoking on the teeth. The focus groups also advised Dr. Leite to keep her group-level presentations short, so she typically prepared 20-minute talks. However, she learned to go with the flow because at some meetings participants wanted more and engaged in questioning.

### **Impacts**

Participant comments, shared at the peer group meetings, revealed what worked, how they applied what they learned, and the pivotal role of the community partner.

- Effectiveness of the medium

*“I think the pictures are good, especially the one with the decaying teeth and cavities and stuff like that, because that will show a person, if you don't take care of your teeth, this is where you'll be at.”*

- Active intervention favored over passive mode

*“If you had just put it in, like the Trident [local paper], or would have put a poster up, people would read over it and kept going. Nobody wouldn't, but with the church, amongst ourselves in church, we talked about it.”*

- Information use

*“You know, in the drug store, when you go buy a toothbrush, they got medium, soft, and there's no such thing as hard anymore. So, I make sure I only buy soft now.”*

- Information sharing

*“I took my book to my missionary meeting cause it was health month, on dental hygiene. So, we went over some of the information.”*

- Credibility through the community partner

*“It's a big plus, because people gonna believe what come out from the church, you know, that was a plus.”*

*“Other people at other churches, when I told them what I was doing with my church, they were like, “How come my church didn't get it?””*

*“A lot of people want to be involved in it. Word-of-mouth, a lot of mouths!”*

## **Outcomes and Scalability**

With just 20 participants in the intervention church and 15 controls, the outcomes of this pilot study are limited. However, more intervention participants were seen at the clinic, returned for a three-month visit, and fewer were terminated from the study. The clinic director confirmed fewer extractions in the study participants due to the innovative CAD/CAM technology that makes crowns, veneers and restorations more affordable. Equally important, Dr. Leite said the study demonstrated a successful model for recruiting, intervention and scalability to larger community settings.

## **Lessons Learned**

Observing interactions between the Community Oral Health Promoter and participants, Dr. Leite came to a deeper understanding of the value of the COHP in community-based research, and of her own limitations in this context:

*“Even though I felt they were comfortable with me, it was different when they were with her. It was the way I responded, not being part of that community, being the dentist and responding in a more clinical way. Even though she didn't know some of them, she could talk to them in a more personal way that really made a difference in their behavior or relieved them of their fears. I could say all day long that it was not going to hurt, but when she said it, it was different.”*

Lastly, Dr. Leite notes that community-based research is very fulfilling, but it can also present ethical dilemmas for the practitioner:

*“When you bring your research to the street level, you have to wear the clinician/research hat and the community service hat so that you're doing good work at the same time that you're doing valid clinical work. That, sometimes, is hard. You're doing a community service, but you have to make sure everybody meets the inclusion criteria, so what do you do when you have to say ‘no’ to a person who doesn't meet the criteria but desperately needs the service?”*

In this case, Dr. Leite felt compelled to work out a back-up plan with the clinic in which they agreed to see any patient she referred, even if the individual was not part of the funded study.

## **Patient Risk Assessment & Health Education with Computer Kiosks in Community Health Centers**

**PI:** Vanessa Diaz, MD, MSCR – Associate Professor, Dept. of Family Medicine, MUSC

**Target:** Adults 18 – 35 years old

**Summary:** Research has shown that low-income individuals are at greater risk of developing preventable disease and less likely to accurately assess their health risks or practice healthy lifestyle behaviors. This program focused on improving patient understanding of personal health risks and the adoption of healthy habits,

a strategy especially relevant to minority patients and military-eligible individuals given its potential to improve fitness for service. The study evaluated the impact of an interactive, tablet-based lifestyle behavior questionnaire prior to a patient's primary care visit on counseling for health behaviors and the patient-provider relationship. At two federally qualified health centers (intervention and control), patients with appointments to see their primary care providers completed a tablet-based assessment covering their nutrition, physical activity, weight, smoking status, and alcohol use. Intervention participants filled out the questionnaire before seeing their providers; participants in the control group completed it after their appointments. Upon completion at the intervention site, summary printouts were given to providers for immediate review prior to seeing their patients. The summary printouts included whether the participants wanted to discuss the results and behavior changes with their providers. In the control group, summary print outs were mailed to each control participant's doctor after the 12-month study follow-up.

The study enrolled 252 individuals (53% intervention; 47% controls) comprised of 71% Black, 5% Hispanic, and 69% female. More than half were overweight or obese (BMI of 25 or higher) with 20 of the 35 participants who expressed interest in serving in the military falling into this category. This evidenced that the project reached individuals ineligible to enlist in the Armed Forces due to health risk. Based on questionnaire responses, participants identified as having unhealthy lifestyle behaviors were asked if they desired doctor counseling to improve such behaviors (e.g., ways to lose weight, eat better, increase physical activity, drink less, quit smoking). Focusing on the objectives below, the Patient Risk Assessment & Health Education with Computer Kiosks in Community centers achieved the following benchmarks:

**Aim 1: Improve patient awareness of unhealthy lifestyle behaviors.**

- A majority of participants had accurate views of their behaviors, with no significant difference between control and intervention groups at baseline.

**Aim 2: Improve communication between patients and providers about how to transition to healthier lifestyle behaviors.**

- Intervention participants were more likely to trust their providers than those in the control group (83% vs. 71%), and feel that their provider cared about their health (80% vs. 68%).

**Aim 3: Provide patients with the knowledge and motivation to make lifestyle and behavior changes that will enable them to live healthier lives and reduce the incidence of preventable diseases.**

- Of the 68% (N=48) in the intervention group who affirmed that they would like to discuss weight lost with their doctors during the imminent visit, 59% (N=32) reported at the one-week follow up that they had that discussion. Of the controls, only 33% (N=16) reported having such discussions with their providers about weight loss.
- Intervention participants were more satisfied with provider honesty and 93% who received weight-related, healthier lifestyle counseling said they felt their provider told them the truth compared to 76% who did not receive counseling.

## PORTRAIT

### Study Design

Dr. Vanessa Diaz described the study as quasi-experimental, implemented at two largely similar primary care practices. Training at both sites consisted of instructing staff on use of the tablet and getting their input on elements they felt important to include in the tablet-based risk assessment survey. The tablet was the study's

defining element, according to Dr. Diaz. Instead of having a staff person ask for the patient's height and weight and go calculate the BMI, the tablet immediately furnished this data to the patient:

*“The tablet quickly calculated these factors and showed the patient a personalized risk stratification. You can't get that kind of immediate feedback from hard copy. Permission for a consult could just as easily been given based on hard copy results but with the tablet, the patient gets asked if they want to talk with their doctor about it right after they've been advised by the software of their at-risk behaviors. I think it made them more likely to say 'Yes, I want to talk about it,' as opposed to having staff ask them cold, 'Do you want to talk about quitting smoking?’”*

If the patient indicated at the end of the survey that they did want the doctor to discuss their results with them, the doctor then reviews the results, including the patient's BMI and the topics the patient wanted to talk about. Providers were not expected to address every item the patient indicated, and most probably did not. For example, if the patient smoked, had a high BMI, and wasn't exercising, the doctor would probably pick one or two of those issues to discuss rather than trying to provide all-inclusive counseling.

## **Challenges**

Implementation of a study dependent on an electronic device is rarely seamless. Ideally, the information collected via the tablet would feed directly into the patient's Electronic Medical Record (EMR), popping up on the doctor's screen during the patient consult. However, the data set-up was not completed in time, so the assessment results had to be printed and handed to the clinician. This was not a major obstacle as staff quickly adapted to the chart-based format, according to Dr. Diaz.

Clinician pushback represented another potential obstacle. Dr. Diaz said that providers doubted patients wanted to talk about these issues and were concerned the counseling conversations would throw off their schedules:

*“We wanted to make this really easy because doctors get paid by number of patients seen so this had to go into their flow and not add a bunch of steps to the provider's time. Once the study got underway, they saw it was not too obtrusive and that the intervention actually helped them open the conversation topic.”*

## **Findings**

Results based on the six-month follow-up, conducted by phone and email, showed that more than three quarters of patients wanted to discuss weight loss and other issues with their doctors. Equally important, the ensuing discussions were associated with improved patient-provider relationships. Dr. Diaz shared her interpretation of these outcomes:

*“I think our patients don't want us to gloss over things just to get out of the room. They want those tough conversations. Patients may feel you are more trust worthy because you're willing to tell them the hard truths and show them things they can do to help. This is contrary to the widely held belief that patients don't want to hear they have to lose weight because it'll offend them and they don't want to talk about it.”*

Although the study lost too many participants to conduct a valid 12-month analysis, the findings suggest the tablet-based survey intervention is a practical tool that can improve patient-physician communication about preventable disease.

Feedback from doctors indicated they found the discussions with patients much easier than anticipated and that knowing the patient had already given permission helped them to broach the topics of concern. Patients

expressed that they often felt the provider did not have the time to talk with them, and that they were glad the conversations took place. According to Dr. Diaz, the fact that doctors knew the patients wanted to talk smoothed the way for them to initiate the counseling:

*“It gave everybody the permission they needed and they were more comfortable having the discussions. We showed this technology didn’t supplant the conversation, but rather helped to augment it.”*

### Scalability Considerations

The idea that interactive kiosks may encourage primary care providers to more readily discuss lifestyle issues with patients and that that, in turn, may help reduce the occurrence of preventable diseases is a hypothesis that merits testing on a larger scale.

Provider EHR systems. Provider EHR systems. Streamlining the flow of patient survey data from the tablet directly into the patient’s EHR is fundamental to improving the uptake of the intervention, but the programming for this to happen is feasible.

Ease of use. This small study employed a Research Associate to sit by the patient taking the survey, answer questions, and ensure nothing happened to the tablet. On a larger scale these issues would need to be resolved:

- How to configure so tablets do not get broken or lost
- How to accommodate more than one person/one tablet at a time
- How to ensure confidentiality in a waiting room with multiple users/tablets

Dr. Diaz noted that digital risk assessment need not be limited to tablet devices. Patients could complete the assessment on the EMR computer in the exam room while waiting for the doctor, or they could do it on their smart phones. After working out these technical angles, the software and risk assessment would be relatively straightforward. Other enhancements to the model include:

- Personalizing the survey. Ask the patient what they care about most and putting those questions first so that if they get called in for their appointment, the issues most pertinent to them can be addressed.
- Connecting the patient to resources. Include links to useful website calorie counting apps, affordable nearby gyms, smoking cessation programs.
- Embedding patient follow-up. Incorporate check-ins into next visit, e.g. “You said in our last visit that you were going to stop smoking. How’s that going?”

### Lessons Learned

Dr. Diaz is more convinced of the value of technology than when she launched the study and confirmed her commitment to integrating more technology into the clinical setting:

*“As a primary care provider you deal with competing needs—the patient’s acute needs when they come in and the education piece, trying to prevent disease. All these assessments and screenings can be overwhelming, just like it would be to know every medication that exists. Technology can help us with these tasks in a way that enhances what we’re providing to the patient.”*

As a provider, Dr. Diaz intends to focus future research on provider-patient counseling that will help identify best practices:



*“I want to get a better idea of what actually takes place in the counseling part of the visit. Now that we’ve started the conversation, how do we make it most effective? We could debrief the provider and patient or maybe videotape the visit to see what works well.”*

### Healthy People in Healthy Communities—Health Information Exchange (HIE)

**PI:** Marilyn Laken, Ph.D., RN, and Professor of Nursing, MUSC

**Target:** Increase efficiency of healthcare networks and systems

**Summary:** Health information systems that are conduits for access and retrieval of clinical data provide safer, more timely, efficient and equitable patient-centered care. HIE systems help multiple providers coordinate care and participate electronically in the patient's continuity of care. Healthy People in Healthy Communities focused on strengthening local healthcare delivery through the implementation of health information technology systems that facilitate health information exchange (HIE). Additionally, the program aimed to build local capacity to sustain the new system and lay the groundwork for replication of the pilot on a broader scale. To this end, Williamsburg Regional Hospital (WRH) and the MUSC Office of the Chief Information Officer collaborated on the blueprint for the first HIE system in Williamsburg County.

Program stakeholders turned to Direct Trust Health Information Systems, a technology and policy framework that enables participating providers to exchange clinical information for treatment and public health and compliance reporting. The Trust is a network of 40,000 health care organizations and 760,000 direct accounts that supports provider-provider and patient-provider exchanges. In this system, health information follows the patient and is available for clinical decision-making and measuring overall quality of care. In Year 4 of the grant, Healthy People in Healthy Communities focused on implementing and piloting an HIE system in Williamsburg County hospitals and participating healthcare practices. Program leadership also served as advisors, promoting HIE system implementation on a broader scale.

#### Program Accomplishments

- > Implemented the first HIE in rural Williamsburg County between WRH and Hope Health, Lake City Hospital and MUSC. Even before a patient leaves the hospital, the system transmits the discharge assessment to his/her primary care provider and specialists, especially critical for 48-hour follow-up cases. The portal directly populates the patient’s chart in the primary provider’s medical records system with the transmitted information, eliminating the need for the provider to hunt for the data.
- > Primary care physicians, school district nurses, WRH, and Hope Health continue to advise and promote development of HIE throughout the county.

#### PORTRAIT

Dr. Marilyn Laken holds a long-time interest in health care systems, how people use them, and how well they serve communities. Having worked in school health clinics for decades and implemented several prior projects in Williamsburg County, she was well connected to local community partners. Leveraging those partnerships was key to the success of the Healthy People in Healthy Communities—HIE program.

Dr. Laken brought a powerful team together including lead physicians, nurse practitioners at Hope Health, the school district's lead nurse, Lake City Hospital, the CEO of Williamsburg Regional Hospital and the Chief Information Officer of MUSC and united them around the goal of implementing Williamsburg County's first networked HIT system.

## Technology

After thorough research and the rigors of the RFP process, the team selected *Health Office Anywhere*. This networking software, already in use by more than 10 South Carolina counties, picks up a child's key conditions, automatically integrates Medicaid billing, and generates reports required by school districts and special reports for the county executive. For example, *Health Office Anywhere* can be used to report on flu season stats and pinpoint where in the county the vector started.

## Training

All school nurses in Williamsburg County were trained on the *Health Office Anywhere* software with remarkably little pushback because the lead school nurse originated the idea and buy-in spread organically throughout her organization:

*“The lead school nurse brought it up at a board meeting. We talked about the steps it would take. Our former chief IT guy was there; he said, we’ve got the money, we’ll make it happen, and Bingo! She was so excited about it and so was everybody else.”*

The time from idea to implementation was about six months, primarily because the funding, technology, expertise, and willing community partners all coalesced synergistically around the goal.

Upon inputting all students' records into the *Health Office Anywhere* system, the county will be able to generate relevant reports, better assess the needs of school districts, and suggest quality improvements, such as reducing emergency room visits by kids with asthma:

*“So, by using the school electronic health record to identify those children at highest risk, we can go after parental permission to get them enrolled in the school telemedicine program. That way, the kids see a subspecialist that just doesn’t exist in Williamsburg County who can help them stay out of the ER.”*

## Challenges

Dr. Laken acknowledged a long learning curve for the team, referring to the challenge of managing the diverse array of primary care providers. Some did not like each other while others were direct competitors. She attributed the competitive tension to the way health care is provided to low-income populations in rural counties. In a sense, the providers were still functioning as individual players, now saddled with cross-purposes. For example, the small rural hospital, barely holding on, needs patients to fill its beds, but it must, at the same time, keep people healthier to maintain low readmission rates so they don't lose reimbursement if certain metrics are not met.

Another challenge reflects the complexity of implementation in a fluid environment. Most rural primary care physicians have been in solo practice for decades, but the changing health care paradigm is compelling many to join group practices and in some cases, they are being purchased by hospitals. This dynamic directly impacted the HIE project when the primary care provider they had been working with for five months decided to sell his

practice to a hospital which then implemented a different medical records system. Dr. Laken’s team quickly pivoted to working with Hope Health, as it was already on a platform compatible with *Health Office Anywhere*.

### Lessons Learned

Dr. Laken’s experience with this county-wide HIE implementation illustrates the pressing need for increased collaboration among major health care players:

*“Everybody is addressing some of the same needs and can benefit if people learn to work together. They are part of different systems, but each has the support now of bigger systems that they didn’t have before. So, it behooves the smaller community hospitals to learn to get along with the private providers so that they will send their patients to that hospital.”*

She acknowledged as well the strong competitive forces in the current environment that pull health care providers in disparate directions:

*“The hospital in another county that bought that solo practice expects patients to go there instead of right across the street. It’s a regional hospital better at handling high-risk patients, so, it’s a mixed bag because it’s still important to have the local hospital and ER for lower risk conditions—this is a conversation that needs to happen.”*

Finally, Dr. Laken emphasized that establishing trust in fluid, community-based programs requires patience and active listening:

*“Trust doesn’t happen overnight and can be destroyed very quickly. Sometimes you have to wait for the right leaders to come along. In these situations, it means be flexible, respectful, and patient. There are always things we can implement, but we always begin with what the community wants and needs. Local interest guides what we do.”*

## Evaluating a Media Strategy—Closing the Gap in Healthcare

**Director & Co-PI:** Marvella E. Ford, PH.D.

**Target:** Medically underserved populations with low health literacy

**Summary:** Closing the Gap in Healthcare, Inc. (CGHI) is a long-running, radio-based healthcare communications strategy, hosted by Dr. Thaddeus John Bell, that has been delivering evidenced-based health information since 2004. CGHI broadcasts on radio stations with predominantly African Americans audiences to reach medically underserved populations with low health literacy, especially the Sea Island communities of South Carolina. The short health tips are broadcast up to eight times a day between 6:30am and 7:30pm. Topics change monthly and cover a spectrum of health issues including cancer screening, diabetes, and dental care to aging, smoking, arthritis and more.

CGHI radio broadcasts aim to 1) increase awareness and knowledge of health issues, 2) influence attitudes, 3) promote action, and 4) show the benefits of behavioral change. SE VIEW Phase II funded the study, *Evaluating a Media Strategy—Closing the Gap in Health Care*, to assess the effectiveness of the broadcasts based on the 11 attributes of effective health communication.

The investigators recruited African American men and women living in the broadcast area to participate in one of 12 focus groups (FG), held between February 2012 and April 2014. The meetings took place in public libraries, community centers and churches. Two were held at Sea Island sites. The FG facilitator asked questions designed around these attributes. FG participants gave their opinions on aspects of the “Closing the Gap” broadcasts and that data was used to inform the content of the radio series and sustain it as a potent tool in decreasing health disparities.

Dr. Marvella Ford worked with a local marketing firm to recruit participants to the 12 focus groups. The firm used driver’s license and magazine lists and reached out to individuals waiting at unemployment offices. An eligibility screener was used to further assess those identified as matching the criteria. Qualified participants received gift cards and refreshments during the FG meeting.

Dr. Bell had been producing and hosting the CGHI broadcasts for more than 10 years, and had always done his own fundraising to sustain the series. However, the program’s impact on listeners or its possible secondary impact on reducing health care disparities had never been professionally evaluated. Without hard data to convince potential funders of the value of the series, Dr. Bell was at a disadvantage when applying for grants. According to Dr. Ford, Dr. Bell requested a meeting to discuss this challenge. They discussed the kind of data funders would find most substantive, but Dr. Bell was not involved in any way in the design or execution of the SE VIEW-funded focus group study.

## PORTRAIT

### Study Design

Given the nature of radio, Dr. Ford opted to conduct a thorough qualitative analysis of the broadcast based on the well regarded framework of the 11 attributes of effective health communication:

*“We wanted to see if the messages were really embedding each attribute, so we designed our FC questions to touch on each one. Some attributes stood out more than others, which in and of itself was a valuable finding.”*

After the 12 FGs were conducted and the data analyzed, Dr. Ford provided a summary of the findings to Dr. Bell, which he incorporated into new broadcast content and used to enhance new grant proposals for the series.

Attributes of Effective Health Communication
<ul style="list-style-type: none"> <li>■ <b>Accuracy:</b> The content is valid and without errors of fact, interpretation, or judgment.</li> <li>■ <b>Availability:</b> The content (whether targeted message or other information) is delivered or placed where the audience can access it. Placement varies according to audience, message complexity, and purpose, ranging from interpersonal and social networks to billboards and mass transit signs to prime-time TV or radio, to public kiosks (print or electronic), to the Internet.</li> <li>■ <b>Balance:</b> Where appropriate, the content presents the benefits and risks of potential actions or recognizes different and valid perspectives on the issue.</li> <li>■ <b>Consistency:</b> The content remains internally consistent over time and also is consistent with information from other sources (the latter is a problem when other widely available content is not accurate or reliable).</li> <li>■ <b>Cultural competence:</b> The design, implementation, and evaluation process that accounts for special issues for select population groups (for example, ethnic, racial, and linguistic) and also educational levels and disability.</li> <li>■ <b>Evidence base:</b> Relevant scientific evidence that has undergone comprehensive review and rigorous analysis to formulate practice guidelines, performance measures, review criteria, and technology assessments for telehealth applications.</li> <li>■ <b>Reach:</b> The content gets to or is available to the largest possible number of people in the target population.</li> <li>■ <b>Reliability:</b> The source of the content is credible, and the content itself is kept up to date.</li> <li>■ <b>Repetition:</b> The delivery of/access to the content is continued or repeated over time, both to reinforce the impact with a given audience and to reach new generations.</li> <li>■ <b>Timeliness:</b> The content is provided or available when the audience is most receptive to, or in need of, the specific information.</li> <li>■ <b>Understandability:</b> The reading or language level and format (including multimedia) are appropriate for the specific audience.</li> </ul>

## Focus Group Findings

Full results of this study were presented in “*Closing the Gap in Healthcare: Evaluating a Media Strategy to Provide Health Messages to Medically Underserved Populations*,” to be published in a peer reviewed journal. For the purposes of this case study, select insights relevant to the attributes of effective health communications framework are highlighted:

1. **Accuracy** — Participants found CGHI messages to be accurate and truthful.
2. **Availability** — Radio is the most accessible medium (especially for those without internet access or with low literacy). They listen to the CGHI broadcasts at home and in the car. Twenty-six participants reported seeing *Closing the Gap* on television (a short pilot program).
3. **Balance** — Few participants understood questions related to this attribute, perhaps indicating that community members are not equipped to evaluate health information that presents differing perspectives, such as the pros and cons associated with widespread prostate cancer screening.
4. **Consistency** — The information was consistent with other sources, differing mostly in format. Four participants cited inconsistencies such as Dr. Bell recommending colonoscopy every 10 years while other doctors say every 5 years and that black women get mammograms starting at age 40 while others recommend age 50.
5. **Cultural competence** — Generally all the participants considered the broadcasts reflective of the culture of African Americans and thought the fictional characters used to convey the messages were culturally relevant. Additionally, they perceived Dr. Bell to be caring and “in touch” with the community.
6. **Evidence** — Not asked because the messages were all evidence-based.
7. **Reach** — Participants said their relatives, co-workers, friends and children listened to the broadcasts. They confirmed the series’ appeal to people of varied ages, but suggested more should appeal to younger African Americans. The “Come on, man” segment resonated with men.
8. **Reliability** — CGHI messages were trustworthy. Participants trust Dr. Bell because he is a good educator and is not selling them anything. Dr. Bell’s roots in the black community confirmed he has the best interest of the community at heart.
9. **Repetition** — Some thought the messages aired frequently enough while others suggested more frequent broadcasts. Two people wanted to hear Dr. Bell deliver the message directly more often than the fictional character, Theodosia.
10. **Timeliness** — Participants cited specific examples of how the messages addressed an immediate need or reminded them of an important self-care behavior such as calling a doctor when they have symptoms described in the broadcast, not skipping medication, cutting down on sugary foods, and using protection during sex.
11. **Understandability** — Participants liked that the messages were detailed, yet simple, clear, to the point, and in “plain English.” Notably, participants from the Sea Island areas liked that some of the episodes were in Gullah dialect; they did not find them offensive, contrary to people outside that community who were uncomfortable with that aspect.

## Secondary Benefits of the Focus Group

Dr. Ford harvested other valuable insights from FC participants. The CGHI broadcasts use ample humor, storytelling and ensemble characters to drive home the health tips. Dr. Ford investigated whether listeners were just enjoying the laughs or truly understanding the message woven through the humor:

*“They loved that the broadcasts were funny. They said you start laughing but the messages make you think about your health. They could identify with the characters that reappeared,*

*dealing with issues they too were confronting like eating better and exercising more, but it didn't come across in a preachy way."*

Even before playing message samples to comment on, Dr. Ford was impressed that some participants could recite particular broadcast episodes almost word-for-word, confirming that they had grasped the take-home points.

FG participants offered an insightful roadmap on health care topics of greatest interest to them. These included cancer screenings, diabetes and diet restrictions, heart attack, stroke, high blood pressure and cholesterol, dental health, gout, arthritis, weight loss, smoking cessation, and healthy habits such as good nutrition and exercise.

A common theme that arose in almost all of the FG discussions was the urgency of highlighting the health issues of African American men. In one FG, several members of the same family were very upset because an uncle had just died from colon cancer, and their young nephew was experiencing bleeding from his rectum but was resistant to seeing a doctor. Dr. Ford said this FG was atypical, but impressive in the way the participants mobilized to address the immediate need of these individuals:

*"One of these women ran out of the room crying. When she came back, we brainstormed on how they could share information with the nephew in ways he might receive it better. Everyone in the FG kind of got involved in that, so it was a really good discussion. Those ladies left feeling prepared to talk to their nephew. They were going to apply the information in the broadcast right away."*

### **Value of Hard Data**

Dr. Bell has used the data gleaned from the FGs in numerous ways to sustain the CGHI radio broadcast, refine its focus, and expand its reach. Through SE VIEW, Dr. Bell arranged for a six-month telecast of health tips programming on Live 5 News. The television series was successful and Dr. Bell applied for another grant from MUSC to extend the pilot. He wrote and produced new episodes on all the topics the FG participants suggested. CGHI applied for funding and received grants from the City of Charleston and the South Carolina Medical Society, and is working on grant collaborations with Select Health, Roper St. Francis Hospital Systems, and MUSC.

### **Lessons Learned**

Dr. Ford's current work is informed by what she learned from focus group participants about framing an effective health message:

*"They told us, 'If someone comes into our community using a lot of medical jargon that people don't understand, it will not work.' You really have to take the time to break down the meaning of the words and use elements of the culture to make it meaningful for people."*

The study reinforced the pivotal role of cultural competency based on community strengths rather than deficits:

*"Dr. Bell's scenarios are intergenerational and involve family and church members acting out parts that draw on the strong social fabric of the African American community. He comes from an asset-based approach, recognizing that communities are strong and together they can make changes. That's very different from messages that don't build in the cultural attributes and strengths that resonate with people."*

Lastly, commenting on the high number of men who could relate to the broadcast’s messages—especially about screening for prostate and colorectal cancer—Dr. Ford stressed the importance of having a good gender mix as well as male coordinators to deliver content in community health education settings.

## PORTRAIT

### Genesis of the SE VIEW Model

Dr. Sabra Slaughter conceived of the Southeastern Virtual Institute for Health Equity and Wellness as a collaborative platform where community partners could streamline their efforts and amplify their impact.

*“We wanted to develop applied research in health disparities reduction and prevention with the goal of delivering innovative healthcare solutions and capacity building to primarily marginally served communities in the state of South Carolina.”*

To that end, Dr. Slaughter identified and invited the programs in Phase I, and the seven Phase II programs highlighted in this report, to apply for SE VIEW funding. Each Principal Investigator embraced SE VIEW as both administrative umbrella and collaborative engine for community work. Once underway, Dr. Slaughter facilitated collaboration amongst the programs through bimonthly, half-day meetings with participating co-investigators and faculty.

Collaboration between the SE VIEW partners took varied forms, from the sharing of ideas, expertise, and contacts at the meetings to important introductions to community leaders and resource sharing. Dr. Slaughter found the Phase II partners to be *“very effective in achieving the synergy needed to work together to figure out how best to execute their programs.”*

For example, several SE VIEW-funded programs formed health councils that brought local providers together. Dr. McElligott leveraged those existing channels to implement the telemedicine in schools program and acknowledged the important role of these SE VIEW relationships:

*“Without the SE VIEW umbrella, our work would have been much more challenging. Face time with the SE VIEW partners made it easier to build on each other’s relationships. Even though our aims were different, going with each other to visit the clinics made us more cohesive.”*

Dr. Marilyn Laken confirmed the cross-project synergies between the Healthy People in Healthy Communities—HIE program and Dr. McElligott’s program. It was a natural fit, given the focus on children and linking the school districts’ nursing records system to the county HIE system:

*“Dr. McElligott and I have been working together since the beginning of the Telehealth Medical Home project. I introduced him to some of these physicians so he could work with them on how they might join in. He attends our community health advisory board meetings and updates everyone on what MUSC is doing in their counties for child medicine. We’re focused on getting the school districts more involved now in HIE as that will assist flu and vaccination reporting and improve coordination of care for the children seen via telemedicine.”*

Dr. Slaughter reported that SE VIEW partners were also effective in developing community partnerships, pointing to Dr. Renata Leite’s exemplary efforts implementing the CBPR to Improve Oral health program:

*“Dr. Leite worked through community avenues; she developed relationships through church meetings and civic organizations, through the Sisters of Mercy already on the ground, and through the community health center. She was just very effective in listening and partnering with folk in a way that allowed the trust to grow.”*

## **Challenges**

The Institutional Review Board (IRB) process was doubly challenging for the SE VIEW partners with approval required from both MUSC and the Department of Defense. Achieving IRB compliance at both levels delayed actual implementation for some SE VIEW programs that were geared up to launch. IRB obstacles required some partners to revise, and in one case, to eliminate a data set that had already been collected because the program had not gotten parental permission. Despite such setbacks, Dr. Slaughter remains a strong champion of the IRB process, noting that the program’s outcomes and ethical practice in research are only strengthened by it.

## **Next steps for SE VIEW**

Dr. Slaughter is focused on funding a SE VIEW Phase III to include select, exemplary programs from Phase I and II. SE VIEW Phase III programs will likely be those endeavors whose health disparity innovations were shown to be very effective in the community but have been unable to secure funding independently. With the advantage of having already navigated the IRB process with MUSC and the U.S. Army Medical Research and Material Command (USAMRMC), the programs funded by SE VIEW Phase III will broaden the community inroads they have built over three to four years and further refine their innovative solutions for health care disparities.

## **Summary Analysis and Conclusions**

### **BIG PICTURE**

SE VIEW II programs demonstrated that community-based research is most effective when the paradigm engages community members around topics compelling to them, acknowledging their experience of chronic diseases in their communities. Stakeholders in these partnerships each bring something of value to the table. SE VIEW programs maximized that interest and engaged the target populations in disseminating critical information and effect change from the ground up.

This is evident in the school nurses’ excitement to get children seen by the telemedicine provider and their school districts’ medical records fully linked to the county HIE system. It is pronounced in the eagerness of the members of the intervention church to improve their dental care efficacy and access treatment. It is widely apparent in the enthusiasm parents, children and teachers showed for the SE VIEW programs that provided accurate information on drugs, smoking, and obesity, and offered them opportunities to cook together using healthier recipes, exercise together after school, and talk together about their common challenges.

The SE VIEW Phase II programs also demonstrated a critical capacity to pivot when obstacles slowed implementation. This flexibility and willingness to stretch, vet, reflect, and restart proved instrumental to the success of several Phase II programs. When the HIE leadership learned that the physician practice they were configuring for system link up had been sold, they quickly found another clinical partner that suited the program’s aims and kept the momentum going. When the first church in the dental intervention revealed itself to be unsuitable, Dr. Leite used the “Are We Ready?” toolkit to guide the subsequent vetting process, resulting in two outstanding church partners for the study. When the health fair model did not produce the level of participant interest STEER had envisioned, leadership made a timely pivot to a take-the-show-on-the-road



model, maximizing the natural talent of their program coordinator, E'lisha Simmons, to present the material and engage participants.

Ms. Simmons, herself a member of the community targeted by STEER, illustrates another strong attribute of SE VIEW Phase II—where possible, the program tapped community people to open doors and convey content tailored to those communities. For example, Program Coordinator Kelli Jenkins helped JDOH gain a foothold at Burke Middle/High School because she was a graduate and could facilitate trust building through the school's JROTC instructor. Dr. Leite's observation of the difference in how intervention participants responded to her compared to the Community Oral Health Promoter—who was from the community—supports this finding. SE VIEW programs that harnessed the synergistic talents of community members as program coordinators, promoters and facilitators show the potent nature of this approach.

This SE VIEW Phase II case study also illuminates the importance of harvesting community input, acting on it, and the value of focus groups in that effort. When focus group participants in the dental intervention said they preferred to see the real consequences of dental neglect in graphic photos, rather than drawings, those changes were quickly made, resulting in a more effective handbook. The changes and topics suggested by focus group participants in the Evaluating a Media Strategy study were cogent to keeping Dr. Bell's radio series current, relevant and funded.

Acting on participant feedback was also instrumental to the success of the tablet-based patient assessment survey of health behaviors and risks. In addition to showing that patients wanted their doctors to talk with them about obesity, smoking, diet and other sensitive topics, patient feedback helped doctors overcome their reticence to initiate these difficult conversations. In this case, participant feedback helped to trigger behavior changes in both patient and physician.

Furthermore, SE VIEW Phase II programs pointed to viable models for sustainability and scalability. JDOH illustrated the benefits of creating a sustained collaboration between institutional partners, professors, students, and the children who interact with the college-based mentors. Similarly, the tablet-based patient assessment and the dental intervention studies, though small, provided workable templates for expansion to larger cohorts and settings.

The SE VIEW model itself was a gamble that proved fortuitous, perhaps because it was so ambitious. The multidisciplinary team of researchers, educators, outreach professionals and community partners that SE VIEW brought under its umbrella were united by the drive to deliver innovative health care and community-building solutions for underserved populations. The fact that they varied so widely in modality, scope and aim could have been a structural flaw for SE VIEW. However, this investigation found that those very differences may be what made this unique group so productive in terms of the level of collaboration and resource sharing achieved.

Lastly, although the goals of SE VIEW Phase II remain large and ambitious, the fact that it also funded small pilot studies was fundamental to its success. Note that while the JDOH program grew in participants, student mentors and school sites over the grant years, with exceptional results, the Telemedicine Medical Home project saw just 121 children over the grant term, with valid outcomes none-the-less. Similarly, the community-based oral health study had only 20 participants in the intervention church, and the HIE program succeeded in linking medical records systems across just one county, but it made history as the first in that county. SE VIEW's willingness to incubate pilot projects, allowing them to test their solutions along with broader, more traditional endeavors, has laid the groundwork for dynamic cross-pollination and the scaling up of innovation.

The programs SE VIEW intends to fund in Phase III will be well supported by this model and positioned to produce the healthcare innovations so critical to the underserved populations of South Carolina and nationwide.

The quality of life impacts on individual community members touched by SE VIEW-funded solutions is a vital, story that SE VIEW aims to explore and report on in the near future.

# APPENDIX A

## SEVIEW Phase II Lessons Learned

