Fighting Diabetes on the Texas-Mexico border

In the low-income communities around San Juan, Texas, Diabetes has left few families unscathed. To achieve change, Wickwire recognized information, education and support had to be more readily accessible to the people in the area. Now he and his team of professionals are providing tests and care on a local farmer's market.

Text: Diana Smith

In San Juan, Texas, 20 miles from the border of Mexico, diabetes is a serious health problem, hitting a mostly minority community hard; one in three people have the disease. With real-time information from modern point-of-care analyzing systems, a team of dedicated professionals led by Brian Wickwire, MD, is doing its best to minimize diabetes' devastating effects, in a seemingly unlikely spot – the local farmer's market.

An internal medicine physician, Brian Wickwire, MD is on the front lines of the battle against diabetes. For the past 15 years, he has worked at Nuestra Clinica del Valle, a network of health clinics in South Texas. Hidalgo County, where he practices, has the highest uninsured population in the U.S.A. The majority of the county's residents are low-income and have limited education.

Furthermore, almost 40 percent of the population is obese. Diabetes has left few families unscathed.

"In our clinical practice, on the Texas-Mexico border, the prevalence of diabetes in the adult population is approximately 30 percent," says Wickwire. "You've got almost one out of three adults who has diabetes. Not only that, but the population has a genetic predisposition to progress in renal failure, and develops renal disease faster than other populations. It is extremely important and critical to have a way to check for early kidney disease and encourage people to seek treatment." He adds, "We have entire families where up to 10 children all have diabetes, and several are approaching kidney failure. As well, the parents have kidney failure. The effect on families is enormous."

Brian Wickwire and a team from the Texas A&M Public Health Science Center launched the Pulga Program, which includes speedy point-of-care testing and health education on diabetes.

A Cultural Shift

To achieve change, Wickwire recognized information, education and support had to be more readily accessible to the people in the area. Many do not seek medical care because they lack transportation and/or insurance. With a start-up grant from Methodist Healthcare Ministries, Wickwire and a team from the clinics and the Texas A&M Public Health Science Center launched an innovative community-based project, the Pulga Program, which includes speedy point-of-care testing and health education on diabetes, emphasizing nutrition and physical activity.

The Pulga Program team set up shop at a huge Mexican-style market where local residents regularly come to socialize and shop, perusing rows

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Dr. Wickwire on location in the testing lab at the local market.

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of fresh, colorful produce, household items and special treats like Mexican candy. Now, in the same place, families and individuals can get tested for early kidney disease (the most common complication of diabetes), with results available in minutes. "The ability to go out into a community and provide point-of-care testing is an enormous tool," explains Wickwire. "With that information in real time, within 20 minutes, you can try and help them find a medical home where they can receive definitive treatment and prevent the complications of diabetes, such as blindness and kidney failure, among others."

Speed and Accuracy

At the market, health professionals use Siemens' DCA Vantage® Analyzer to perform glycosylated hemoglobin (HbA1c) and Microalbumin tests (albumin creatinine ratio. "Every three to six months, patients should have their A1C tested if they have diabetes, and also their urine tested once a year for early kidney disease," Wickwire emphasizes.

Wickwire prefers the HbA1c testing to a simple glucose test. "Random finger-stick glucose tests only tell you the sugar at the moment," he explains. The A1C is unique in its ability to test people at any time of day or night, regardless of whether they have eaten or not recently.

Testing is Critical

Besides controlling medical complications, early detection of kidney disease can have a significant economic impact. "If one person progresses all the way to end-stage renal disease or kidney failure and requires hemodialysis, that costs a minimum of $70,000 a year if they have insurance; and if they do not, $250,000 a year," reports Wickwire. In the first 18 months of the pilot, the team tested more than 1,500 clients. The prevalence of diabetes was 22 percent. Those with high levels of protein have been 2 to 5 percent. Patients receive education, low cost medications and referral to a medical home.

One of these was a 40-year-old male patient, whose tests indicated diabetes and kidney disease. Since receiving his results, he has made major life changes, including eliminating all sugar drinks from his diet, launching a walking regimen and starting medication. As a result, he's lost 20 pounds. If the Pulga Program team has its way, residents like this patient will be able to control their diabetes for decades, and thousands of others won't ever get it at all. ●

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The statements by Siemens' customers described herein are based on results that were achieved in the customer's unique setting. Since there is no "typical" hospital and many variables exist (e.g., hospital size, case mix, level of IT adoption) there can be no guarantee that other customers will achieve the same results.

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