The costs of diabetes impact individuals and society. Millions of dollars in direct healthcare costs and lost productivity costs are attributed to diabetes. Over the last 15 years, Hidalgo and Cameron Counties of the Rio Grande Valley of Texas were burdened with higher rates of diabetes when compared to the state of Texas, but there is some good news as those rates are changing.

**At a Glance:** Based on analysis of multiple data sources on the Rio Grande Valley and the State of Texas the following are the key results:

- Rio Grande Valley has higher rates of diabetes than Texas
- Since 2011, the Rio Grande Valley’s rate of diabetes has decreased 10.56%, meaning nearly 19,000 fewer people have diabetes
- Texas rate of diabetes is increasing
- Assuming the rate of change remains consistent, the Rio Grande Valley will have a downward trend of diabetes, while Texas will have an increasing trend of diabetes up to 2030.
- The work to prevent diabetes in the Rio Grande Valley must continue

Based on the Texas Behavioral Risk Factor Surveillance Survey, the time trend for diabetes in Hidalgo and Cameron Counties is flat and slightly decreasing (p=.68) whereas the time trend in the state of Texas between 2011 - 2017 is significantly increasing (p=.03). We found similar results of an overall downward trend among the Hispanic Cohort study participants.
Reducing obesity rates will prevent the onset of diabetes and other chronic diseases. In 2008 dollars, the estimated cost of obesity annually is $147 billion accounting for direct healthcare costs and lost productivity costs.* Over the last 15 years, the rate of obesity in Hidalgo and Cameron Counties of the Rio Grande Valley of Texas was higher than the state of Texas, but this region’s fairly stable but slightly decreasing obesity rate still results in money saved. In fact, this improvement is even more pronounced when compared to the steeply increasing rate of obesity found in the State of Texas.

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At a Glance: Examining obesity related data for the Rio Grande Valley and the State of Texas the following are the key results:

- Rio Grande Valley has very high rates of obesity, much higher than the Texas rate
- Since 2011, the Rio Grande Valley’s rate of obesity has shown a slight decrease of 1.2%, meaning just over 5500 fewer people are obese
- Texas rate of obesity is sharply increasing
- We expect a downward trend of obesity in the Rio Grande Valley and an increasing trend of obesity in Texas up to 2030 assuming the rate of change overtime remains consistent.
- The work to prevent obesity in the Rio Grande Valley must continue

GOAL OF UCD
To reduce the number of new cases of type II diabetes in 5 years, resulting in a 10% reduction in the prevalence of diabetes by 2030. We are committed to doing this by integrating primary and behavioral health for people at risk for diabetes in our community, with a particular emphasis on meeting the needs of low-income and underserved populations.

Changing trends mean cost savings for the Rio Grande Valley
Any improvement in our diabetes rate means we have avoided healthcare costs and gained productivity in the region. Based on the conservative figures of the BRFSS showing a 10.56% decrease in the prevalence of diabetes in Hidalgo and Cameron Counties between 2011 – 2017, we have nearly 18,911 fewer people with diabetes saving nearly $200 million dollars each year in health care and lost productivity costs.

In addition, any improvement in our obesity rate means we have avoided healthcare costs and gained productivity in the region. Based on the conservative figures of the BRFSS showing a 1.2% decrease in the prevalence of obesity in Hidalgo and Cameron Counties between 2011 – 2017, we have 5562 fewer people classified as obese saving nearly $587,000 each year (estimated $105 per obese individual**) in health care and lost productivity costs.

PREVENTING DIABETES IS COMPLEX
Just as multiple factors contributed to the high rates of diabetes found in the Rio Grande Valley, multiple factors also contributed to the improved diabetes time trends including:

• Greater awareness of the risk factors for diabetes, pre-diabetes and the connection to behavioral health.
• More partnerships between clinics and the community prevented diabetes and prioritized a healthy community and workforce.
• Regional champions for health created infrastructure supports and policies that promoted healthy lifestyles.
• More resources were directed towards prevention health initiatives and social determinants of health.
• UCD helped partners align strategies and pool resources for collective action related to prevention and healthy living.

Cameron County Hispanic Cohort established in 2004, is a two-stage randomly selected cohort of Mexican Americans on the US-Mexico Border. The Hispanic Cohort consists of over 4500 men and women 18 years or older who have been followed for more than 10 years. All of the information on the Hispanic Cohort is measured in a clinical research unit that follows Good Clinical Practice.

**Behavioral Risk Factor Surveillance System (BRFSS)** is a cross-sectional telephone survey conducted by the Centers for Disease Control and Prevention (CDC) and Texas Department of State Health Services. The BRFSS uses a multistage cluster design based on random-digit dialing methods of sampling to select a representative sample from each state’s noninstitutionalized civilian residents aged 18 years or older. All information from the BRFSS is self-reported.

The main outcome variables of interest were diabetes and obesity using questions developed from the BRFSS and Hispanic Cohort. Diagnosed diabetes was assessed by asking respondents, "Have you ever been told by a doctor that you have diabetes?" The answer was coded "yes" or "no." In addition, for all Hispanic Cohort participants (regardless of self-reported diabetes status) a measure of fasting blood glucose and HbA1c (glycosylated hemoglobin) is obtained to ascertain actual diabetes status, which was used in this report. For the BRFSS, we used self-reported weight and height to calculate BMI. Participants were classified as obese if their BMI was 30 kg/m² or more. The height and weight are taken for all Hispanic Cohort participants in the clinical research unit using highly standardized methods. Diabetes and obesity for the Hispanic Cohort are higher than Hidalgo and Cameron Counties and than Texas BRFSS because they were directly measured as opposed to self-reported.

All analyses for BRFSS data were performed using SAS version 9.4 (SAS Institute, Cary, NC) at a significance level of 0.05. In order to obtain enough sample size and reduce the variation of the estimation, BRFSS data were divided into three time periods 2011-2013, 2014-2015 and 2016-2017, and participants from Hidalgo and Cameron Counties were combined. To adjust for the complex multistage survey design with stratification, clustering, and unequal weighting, a SAS procedure Proc SurveyFreq was used to generate the weighted estimates of obesity and diabetes rates, and to test if they differed by regions and/or time periods.

**Definitions for the Economic Cost Estimates:** Direct healthcare costs may include preventive, diagnostic, and treatment services. Productivity costs include ‘absenteeism’ (costs due to employees being absent from work for condition-related health reasons) and ‘presenteeism’ (decreased productivity of employees while at work) as well as premature mortality and disability.