

Fighting the diabetes epidemic the way public health has fought HIV

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“Changing HIV risk behavior was pretty challenging, but sexual behavior is episodic. However, you eat meals three times a day, so you have more opportunities to succeed or fail each day,” says Ralph DiClemente. Credit: Emory University

In the U.S. and other high-income countries, diabetes is a good news, bad news scenario. On one hand, people who have diabetes today fare better than they did 20 years ago. They are living longer and suffering

fewer complications, such as heart disease, kidney disease, amputations, strokes, and blindness.

On the other hand, more people are developing [diabetes](#) than experts even projected, with some 29 million people in the U.S. living with the disease today. One in four people with diabetes remains unaware and almost 90 percent with prediabetes don't know their blood sugar is elevated. And the drop in complications is not enjoyed equally. Minorities, people with low incomes, and younger adults tend to suffer more than their white, affluent, and older counterparts.

"We have gotten very good at caring for and controlling diabetes, but we are lagging in prevention," says K.M. Venkat Narayan, Ruth and O.C. Hubert Professor of Global Health. "The science is there. We know exercise, a healthy diet, and weight loss are extremely effective in preventing diabetes in people at high risk, but we haven't been able to figure out how to translate and scale up the implementation of that knowledge into population-wide interventions that work. We also need to find ways to improve outcomes for disenfranchised populations."

Narayan and his team will be tackling these issues through the newly established Georgia Center for Diabetes Translation Research. The center is funded by a grant from National Institute of Diabetes and Digestive and Kidney Diseases that was awarded to a partnership of Emory University (Rollins as well as the schools of medicine, nursing, and business), Georgia Institute of Technology, and Morehouse School of Medicine. Narayan is the principal investigator of the center.

Narayan and his team are borrowing the expertise Rollins has built in HIV prevention by bringing in Ralph DiClemente, Howard Candler Professor of Public Health in behavioral sciences and health education. DiClemente has decades of experience working to prevent [risky sexual behavior](#) among populations vulnerable to HIV, and he will repurpose

these strategies to prevent diabetes. "One of the key things we've learned in our HIV work is that knowledge of the disease and what it takes to prevent it, while necessary, are not enough to promote adoption or maintenance of behavior change," says DiClemente. "We need to do much more than letting people know they are at risk. We have to be able to motivate people to adopt healthy behaviors."

That task may prove even more difficult for diabetes than it is for HIV. "The risk for both lie in lifestyle behaviors—sexual behavior for HIV and diet and exercise for diabetes," says DiClemente. "Changing HIV risk behavior was pretty challenging, but sexual behavior is episodic. However, you eat meals three times a day, so you have more opportunities to succeed or fail each day."

Technologies such as text messaging apps have proven helpful in providing needed reminders and motivation in HIV interventions, and the center plans to deploy similar strategies to fight diabetes. Community strategies can provide another layer of support. Coaches at YMCAs, churches, and community groups could be trained to offer diet and exercise interventions.

The center will also focus on eliminating disparities in [diabetes management](#) and complications, for which its Georgia location is ideally suited. The prevalence of diabetes in the Southeast is much higher than in other parts of the country—running 13 percent to 15 percent as compared to 9 percent for the nation. It also strikes some groups harder than others, particularly afflicting African Americans, people with lower incomes, and those with lower education levels. Not only do these groups have a higher incidence of diabetes, they have higher complication rates and incur higher costs.

Once again, the center will benefit from the expertise of the larger institution. "We have a lot of experience in disparities we can draw

from," says Mohammed Ali, associate professor of [global health](#) and epidemiology and associate director of the center. "The school of medicine has a recently awarded American Heart Association Cardiovascular Center for Health Equity, and our epidemiology department has a training grant that focuses on disparities in cardiovascular diseases. These centers will collaborate, as their missions are similar, and the hope is that, together, the impacts will be larger than the sum of their individual actions."

Ali and his team have also identified another high-risk group—young adults. People with diabetes between 18 and 44 routinely have the worst outcomes in terms of controlling glucose, blood pressure, and cholesterol. That's largely because this group is not good at getting the care they need. "You know how the young never show up to vote? The young also don't show up for [diabetes care](#)," says Ali. "We're not sure why. Maybe they are working three jobs, or raising a young family, or just think they are immortal. Whatever the reasons, this age group does not manage the disease well, which means they develop complications earlier in life and spend a longer portion of their life dealing with morbidity and disability. We must counter this."

Provided by Emory University

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