Heart disease is different for people with type 1 diabetes. They have a much higher risk of it and tend to have it at a younger age than those with type 2 diabetes.

Janice Zgibor, PhD, wants to make sure physicians and their patients have the right tools in their hands to evaluate these risks and take action to prevent heart disease. Zgibor is an epidemiologist at the University of Pittsburgh Graduate School of Public Health.

Janice C. Zgibor, PhD

**Occupation**
Assistant Professor, University of Pittsburgh Graduate School of Public Health, and Director of Evaluation, University of Pittsburgh Diabetes Institute

**Focus**
Epidemiology

**Research Funding**
ADA Junior Faculty Award
The Wrong Tools
Zgibor was a pharmacist for 11 years before going back to school to become an epidemiologist. As a pharmacist, she saw close up that people had problems accessing medication and education; she also wanted to tackle larger issues of health care delivery for people with diabetes.

“I noticed when I started my early studies as an epidemiologist that people with type 1 diabetes were at higher risk for heart disease, but they were not being treated as aggressively as they should have been,” says Zgibor.

One of the problems, says Zgibor, is that the tools used to help physicians evaluate risk of cardiovascular disease weren’t developed for people with type 1 diabetes. The tools, also called prediction models, were developed using the general population or people with type 2 diabetes.

A prediction model might sound complicated, but you’re likely to see it used in your doctor’s office as a computer program or a chart on the wall. Physicians punch in or look up different risk factors, such as smoking or weight, to calculate a score for someone’s risk of cardiovascular disease.

She says these tools underestimate the risk of cardiovascular events in people with type 1 diabetes, perhaps giving physicians and their patients a false sense of security when they should be ramping up treatment for hypertension and cholesterol.

A New Equation
So, Zgibor set out to develop a tool that would take into account risk factors unique to people with type 1 diabetes. She did this with grant money from the American Diabetes Association.

First, she had to figure out what those risk factors are in men and women. She analyzed data collected on more than 600 people with type 1 diabetes as part of the Pittsburgh Epidemiology of Diabetes Complications study.

“Renal [kidney] disease is one of the biggest predictors of having a coronary artery event for people with type 1 diabetes,” says Zgibor.

“In women, we found that waist-to-hip ratio is also a predictor of heart disease,” she says, adding that other models don’t take either of these factors into account.

Zgibor created separate models of cardiovascular risk for women and men with type 1 diabetes. Now, Zgibor is testing how well her models work in a database of a diverse population of people with type 1 diabetes from Europe. If all goes well, she’ll test the tools with physicians and their patients in clinics in Pittsburgh within 2 to 3 years.

Aggressive Steps
The heart of Zgibor’s research is creating the best tools to help physicians and their patients make treatment decisions and improve health.

“It’s really important for patients to be their own advocates,” she says. They need to know what their blood pressure and cholesterol numbers should be and what they actually are.

She says that the risks can be underestimated in people with type 1 diabetes because they tend to be younger when cardiovascular disease develops. They may need treatment earlier in their lives to prevent or delay heart attacks.

“The bottom line is that people with type 1 diabetes need to receive more aggressive cardiovascular risk reduction treatment,” Zgibor says.