

# Helping Kids in High Poverty Neighborhoods Achieve Optimal Glycemic Control

Under-resourced neighborhoods are hot spots for type 1 diabetes-related morbidity, putting children at risk for chronic exacerbations and poor outcomes. A quality improvement study led by Cincinnati Children's pediatric endocrinologist Nana-Hawa Yayah Jones, MD, is addressing this persistent problem.

The work is inspired by a similar five-year asthma-improvement initiative at Cincinnati Children's. That initiative has shown that children with poorly controlled asthma can achieve dramatically improved outcomes, even when they face intense barriers to care such as poor housing, lack of educational opportunities and poor access to healthcare.

## What motivated you to do this study?

In our type 1 diabetes clinics, children on public insurance who live in impoverished neighborhoods have worse blood glucose control than patients from more affluent neighborhoods. Health disparities like these are not unique to our clinic—we see them throughout this country and in many different disease populations. The reasons are complex and include socioeconomic status. If you are worried about personal safety, food and shelter, you aren't thinking about things like glycemic control.

In the first part of this study, we characterized population-level health disparities among our type 1 diabetes patients in Hamilton County, where the hospital is located. To do this, we analyzed electronic medical records using geocoding and geomapping technologies. Our team presented the findings at the American Academy of Pediatrics National Conference & Exhibition in October 2019.

## What does the intervention involve?

Our initial findings identified hot spots of morbidity. We designed a care plan for a cohort of 11 adolescents with type 1 diabetes who live in those neighborhoods. As part of the care plan, a community health worker

visits each child's home regularly. The health worker communicates with the diabetes clinic and primary care provider when problems related to diabetes management arise.

If a child is out of test strips, the health worker will let the clinic know. If the child doesn't have transportation for a clinic appointment, the worker can schedule an Uber. Our diabetes educator can step in to address any gaps in diabetes knowledge. It's not always about providers knowing what's best; we encourage patients to tell us what they need to optimize their own health and well-being.

## How does the care plan support caregivers?

We are using a novel qualitative assessment tool called a CareMap, which is a visual representation of each family's support system. It helps caregivers and our research team identify existing resources and potential gaps in support. And it helps us identify where an intervention is likely to be effective, whether at home, school, in the community or in the clinic.

## How will you measure the success of this study?

We will look for reductions in emergency department utilization and hospitalization for diabetes ketoacidosis, changes in hemoglobin A1c results, improvements in quality of life measures, and other outcomes that often are hard to quantify, such as resilience. The nice thing about a QI study like this is that it's flexible. We are seeing opportunities to improve our interventions, and making changes on the fly.

