

Kids and diabetes risk: Do chromosomes hold new clues?

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Children who have a high risk of developing type 2 diabetes might be identified earlier by way of tell-tale genetic indicators known as biomarkers. Some of those new biomarkers might be pinpointed in research led by Nancy F. Butte and funded by the U.S. Department of Agriculture (USDA) and the U.S. Department of Health and Human Service's National Institutes of Health.

Butte is with the USDA Agricultural Research Service (ARS) Children's Nutrition Research Center at Baylor College of Medicine in Houston, Texas, where she is a professor of pediatrics. ARS is USDA's principal intramural scientific research agency.

Pediatricians and other healthcare professionals might someday use the biomarkers. So might nutrition researchers who develop science-based strategies to prevent type 2 diabetes among America's kids.

To develop biomarkers, Butte and co-researchers are conducting fine-scale mapping of the genes on a region of chromosome 13. Their investigation builds upon earlier work, published in 2007 in the [Journal of Clinical Endocrinology and Metabolism](#), in which the scientists identified a region that influences fasting blood sugar (glucose) levels. High glucose levels often are indicative of prediabetes or type 2 diabetes.

The scientists found the region on chromosome 13 by examining results of DNA and fasting [blood glucose](#) tests of 1,030 Hispanic children aged

4 to 19 years. The youngsters were volunteers in "Viva La Familia," a multi-year study of [childhood obesity](#) and obesity-related disorders, such as type 2 diabetes, among Houston-area Hispanic youngsters.

Biomarkers revealed by this fine-scale mapping might prove to be indicative of predisposition to type 2 diabetes not only in Hispanic youngsters, but perhaps in children of other racial or ethnic groups as well.

In earlier studies conducted elsewhere, that chromosomal region was associated with risk of obesity in adults, but had not been aligned with type 2 [diabetes](#) risk in youngsters or adults.

Butte will present the results of the mapping study at the annual national meeting of the Obesity Society in San Diego, Calif., in October.

Provided by United States Department of Agriculture

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