

School cafeterias use technology to create healthy eating 'report card'

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Childhood obesity is a national issue and many communities have looked to their schools for help. While schools are required to follow new federal guidelines for healthier lunch options, whether students are actually eating the healthier food provided and making healthier behavior changes have yet to be determined.

Preventive medicine experts at Rush University Medical Center and Canyon Ranch Institute have teamed up to design and test a new program that tracks what students are actually choosing to eat at [school](#) meals and supports parents and caregivers in helping their children achieve healthy lifestyles. The program is called Healthy School Meals Realized through Technology (SMART) Schools.

Sixth-grade students at the UNO Charter School Network's Rufino Tamayo Charter School and Octavio Paz Charter School are participating in the unique new study where [preventive medicine](#) experts are using technology in the school cafeterias to track what each student eats during breakfast and lunch. Each week, parents and teachers receive a comprehensive report on the nutritional value of their children's school meals along with [healthy eating](#) recommendations for each student.

The pilot program, launched in April 2014, is an innovative collaboration between Rush, Canyon Ranch Institute and the UNO Charter School Network with input from the City of Chicago. The Hillshire Brands Company awarded \$200,000 to fund the pilot program. A+ Café, a school nutrition software company, helped develop the technology

system for the study.

"Most Chicago school parents receive a monthly cafeteria menu of what meals will be offered for breakfast and lunch for their child," said Brad Appelhans, PhD, associate professor of preventive medicine at Rush and a principal investigator of the study. "However, parents and teachers are generally unaware of what their children or student actually eat at school or how this fits into their overall diet and what they eat outside of school."

Using the new technology system and software program developed for Healthy SMART Schools, cafeteria workers scan each student's identification card and use a touch-screen monitor to record each food item the student chooses for breakfast and lunch. The system allows researchers to document students' food choices and create a summary of their nutritional value.

Individual, comprehensive, one-page report cards on each student's food choices are sent to parents and teachers in both English and Spanish. The report card lists the nutritional value of each student's meals during the past week, such as calories per day and daily vegetable and fruit servings, along with information designed to advance the families' health knowledge so that students and parents can make more informed choices about their health and well-being.

At the beginning of the project, in-depth, qualitative research was conducted by Canyon Ranch Institute that included focus groups and interviews with students, parents, teachers and staff from the two UNO Charter Schools and the company that provides the school meals. The findings of this research helped the researchers design the food choice tracking technology system and the individualized reports based on feedback from the school communities.

"Canyon Ranch Institute's research found that in Chicago, people are interested in living healthy lives," said Andrew Pleasant, PhD, senior director for Health Literacy and Research at Canyon Ranch Institute and a study co-investigator. "By improving health literacy through the Healthy SMART Schools program, people can make informed decisions about their nutrition and overall health and wellness and improve health outcomes for themselves and their children. Children who maintain a healthy weight are more likely to be healthy adults. Healthy adults are more productive, happier, and healthier and spend less money to obtain health care throughout their lives."

Initial findings from the research indicated that the UNO community was very interested in learning about healthy eating, including how to read food nutrition labels and how to develop an understanding of guidelines for healthy eating. Parents also expressed many challenges to healthy eating, including stress from daily life, the high cost of healthy food and difficulty convincing children to eat healthy food.

"The overall goal of this project is to develop a technology-based system to track student food choices in the school setting and be able to provide this information to parents and teachers along with some evidence-based strategies to help children adopt a healthy lifestyle," said Appelhans. "This could be a valuable component of future school-and-family-based child obesity interventions."

The feedback reports provided by the technology include tailored education and self-management skills training they can use with their families. The training is focused on improving health literacy to help people make informed decisions about [food choices](#) and activity.

The information gathered through the new system could also provide teachers with insights about how to better teach health and nutrition in the classroom and address the issues identified in the qualitative

research.

The rates of overweight and obesity are higher in Chicago than the national averages and vary widely by age and community area.

According to data from the city of Chicago, in the 2010-2011 school year in public schools, 36.5 percent of kindergartners, 48.6 percent of sixth graders and 44.7 percent of ninth graders were overweight or obese.

"By creating healthy eating 'report cards,' the City of Chicago and its partners have taken another important step in the fight against obesity," said Chicago Department of Public Health Commissioner Bechara Choucair, M.D. "This project will help parents, teachers and community partners find innovative solutions to this preventable disease while encouraging healthy eating habits at school and home."

The Healthy SMART Schools 18-month pilot is targeting 30 sixth-grade students at UNO Rufino Tamayo Charter School. This school year, 60 sixth-grade students from UNO Octavio Paz Charter School also will participate in the program.

"There is an important connection between a healthy diet and a student's ability to learn and achieve high standards in school. Our students' overall health and wellness are strongly affected by the food served in school, the physical activity during the day, and the nutritional education provided to both the child and their parents," said Jesse Estrada, UNO CEO.

"As a partner in the communities we serve, we believe that our role is to model and provide the education, tools, and opportunities to achieve a high quality of life and a complete wellness of mind, body and spirit," said Estrada.

Because child obesity typically persists into adulthood, the current epidemic levels foreshadow dire health consequences for the next generation of Americans. Not only is obesity a primary risk factor for Type II diabetes, cardiovascular disease and certain cancers, it is associated with up to eight years of lost life in women and 10 years in men.

Fortunately, obesity is a modifiable risk factor, according to Appelhans. Reducing the prevalence of obesity by only five percent over the next two decades could prevent hundreds of thousands of cases of diabetes, heart disease, and cancer, saving billions of dollars in obesity-related health care costs.

"Schools face the same challenge that parents at home face every day, which is how to entice kids to eat healthier and be more active. We hope that the approach we are investigating in this project will help parents and teachers guide children towards a healthy, active lifestyle that they will sustain long term," said Appelhans.

Provided by Rush University Medical Center

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