

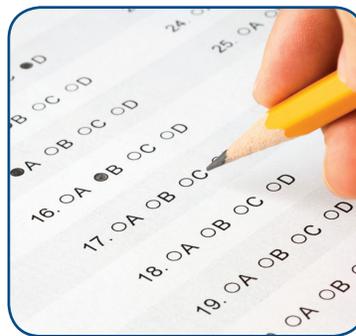
Nutrition Perspectives

UC Davis Department of Nutrition, UC Agriculture and Natural Resources, and Center for Nutrition in Schools

CDC Releases New Data on the Connection between Health and Academics

As millions of students across the United States headed back to school, Centers for Disease Control and Prevention (CDC) released new data confirming the close connection between student health and academic performance (1).

The data published in the September 8 issue of *The Morbidity and Mortality Weekly Report* suggest that regardless of sex, race/ethnicity and grade-level, high school students reporting lower academic marks also reported greater health risk behaviors associated with substance use, violence, poor nutrition, lack of physical activity, and sex. They also reported fewer healthy behaviors than did students who made better grades.



Students with lower grades also reported greater behaviors associated with poor nutrition and lack of physical activity.

“These findings highlight the connection between student health and academic achievement,” said CDC Director Brenda Fitzgerald, M.D. “Schools, parents and communities can all work together to ensure a healthy and successful future for our children.”



CDC promotes the use of the Whole School, Whole Community, Whole Child model, which focuses on a child’s cognitive, physical, social and emotional development.

The analysis uses information from CDC’s 2015 Youth Risk Behavior Survey. While the results do not address causality, they confirm that across nearly 30 health behaviors, students with lower grades

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reported higher levels of health risk behaviors or negative outcomes. On the other hand, students who reported positive academic outcomes were more likely to report healthy behaviors. Examples include:

- Students who reported receiving mostly Ds and Fs, were nine times more likely than students who received mostly As to report having ever injected any illegal drugs.
- Students who reported receiving mostly Ds and Fs, were five times more likely than students who received mostly As to report that they did not go to school at least one day in the past month because of safety concerns.
- Students who reported receiving mostly Ds and Fs were more than four times more likely than students who received mostly As to report that they had four or more sexual partners.
- Conversely, students who reported receiving mostly As were twice as likely as students who received mostly Ds and Fs



Students who reported receiving mostly As were twice as likely as students who received mostly Ds and Fs to report eating breakfast every day in the past week.

to report eating breakfast every day in the past week.

- Similarly, students who reported receiving mostly As were almost one and a half times more likely than students who received mostly Ds and Fs to report being physically active at least 60 minutes per day on five or more days in the past week.

To support America's schools in improving the health of their students, CDC provides data, expertise and resources that can be helpful in developing and carrying out effective programs. This includes funding state and local education agencies that reach approximately 23 million American students to help them avoid risky health behaviors. In

addition, CDC promotes the use of the Whole School, Whole Community, Whole Child model, which focuses on a child's cognitive, physical, social and emotional development.

National and local health and safety data provided by CDC guide program activities, ensure the most effective use of resources and

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Sheri Zidenberg-Cherr, Ph.D., Nutrition Specialist, Anna M. Jones, Ph.D., and staff prepare NUTRITION PERSPECTIVES. This newsletter is designed to provide research-based information on ongoing nutrition and food-related programs. It is published quarterly (four times annually) as a service of the UC Davis Center for Nutrition in Schools, the University of California Agriculture and Natural Resources and the United States Department of Agriculture. NUTRITION PERSPECTIVES is available online, free of charge, at <http://nutrition.ucdavis.edu/perspectives>. Questions or comments on articles may be addressed to: NUTRITION PERSPECTIVES, Department of Nutrition, University of California, Davis, CA 95616-8669. Phone:(530) 752-3387; FAX: (530) 752-8905.

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empower states to make the case for the programs and services students need.

“As our nation’s children embark on another school year, it’s important to remember that health and academic performance are not mutually exclusive,” said Dr. Fitzgerald. “When it comes to youth, health and education professionals should work in concert with communities and parents to help them create the best possible environment for the health, well-being and future success of the next generation.”

For more information on CDC’s school health efforts, visit www.cdc.gov/healthyyouth and www.cdc.gov/healthyschools/.

Reference:

1. Rasberry CN, Tiu GF, Kann L, et al. Health-Related Behaviors and Academic Achievement Among High School Students - United States, 2015. *MMWR Morb Mortal Wkly Rep.* 2017 Sep 8;66(35):921-927. doi: 10.15585/mmwr.mm6635a1.

Source: CDC Newsroom Releases; Sept 7, 2017; <https://www.cdc.gov/media/releases/2017/p0907-health-academics-connection.html>



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Students who reported receiving mostly As were more likely to be physically active.

FDA Acknowledges Qualified Health Claim Linking Early Peanut Introduction and Reduced Risk of Developing Peanut Allergy

After conducting a systematic review of the available scientific evidence, the U.S. Food and Drug Administration has determined that it intends to exercise enforcement discretion for the use of a qualified health claim for infants with severe eczema and/or egg allergy characterizing the relationship between the consumption of foods containing ground peanuts beginning between 4 and 10 months of age and a reduced risk of developing peanut allergy by 5 years of age.

The claim, which manufacturers can use immediately, reads:

For most infants with severe eczema and/or egg allergy who are already eating solid

foods, introducing foods containing ground peanuts between 4 and 10 months of age and continuing consumption may reduce the risk of developing peanut allergy by 5 years of age. FDA has determined, however, that the evidence supporting this claim is limited to one study.

If your infant has severe eczema and/or egg allergy, check with your infant’s healthcare provider before feeding foods containing ground peanuts.

The qualified health claim was in response to a petition filed by Assured Bites, Inc. Qualified health claims are not the same as “authorized health claims,” which must be

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supported by significant scientific agreement among experts in the field. Qualified health claims are supported by credible scientific evidence, but do not meet the more rigorous “significant scientific agreement” standard required for an authorized health claim. As such, they are accompanied by qualifying language or a disclaimer so that the level of scientific evidence supporting the claim is accurately communicated. The FDA’s intent to exercise enforcement discretion for the use of the qualified health claim means that the agency does not intend to object to its use as long as the products bearing the claim are consistent with the factors FDA stated in the Letter of Enforcement Discretion.

Epidemiological evidence suggests that the prevalence of peanut allergy in U.S. children has at least doubled from 1997 to 2008 (1). Peanut allergy is one of the most common food allergies and, in the majority of individuals, it begins early in life and persists throughout life. There are no FDA-approved treatments for preventing or curing peanut allergy, and it is the leading cause of death related to food-induced anaphylaxis in the United States. Thus, interventions that may prevent development of peanut allergy could be beneficial to public health.

Published in 2015, the Learning Early About Peanut Allergy (LEAP) study involving more than 600 infants was the first randomized intervention trial to study early introduction to peanut



The prevalence of peanut allergy more than doubled between 1997 and 2008.



In 2015, the LEAP study demonstrated that early introduction to infants at high risk for peanut allergy was an effective way to reduce risk of developing a peanut allergy.

protein in infants as a preventive strategy (2). The study demonstrated that for infants with severe eczema and/or egg allergy, a population at high risk of developing peanut allergy, beginning consumption of peanut-containing foods in infancy (between 4 and 10 months of age) reduced the risk of developing peanut allergy by 5 years of age by more than 80 percent. In light of this finding and the public health consequences of peanut allergy, the National Institute of Allergy and Infectious Diseases (NIAID), part of the National Institutes of Health (NIH), established a coordinating committee, which convened an expert panel to develop new clinical recommendations to prevent the development of

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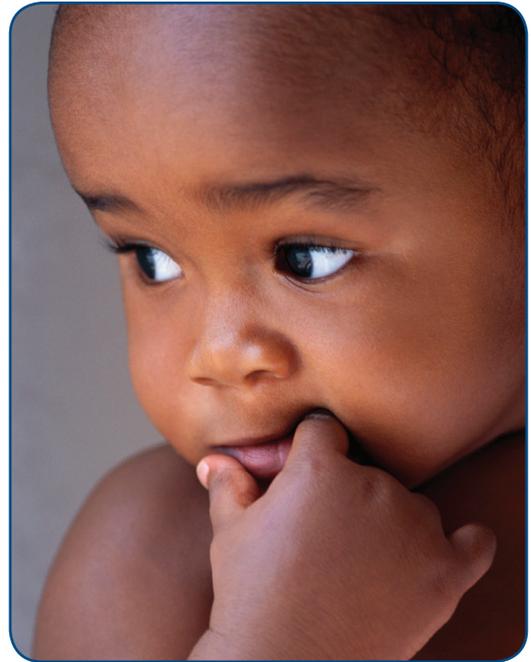
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peanut allergy. The Addendum Guidelines for the Prevention of Peanut Allergy in the United States provide three guidelines for the early introduction of peanut-containing foods in infants, based on their level of risk for developing peanut allergy (3).

This qualified health claim is supported by the same scientific evidence behind the first Addendum Guideline that recommends the introduction of peanut-containing foods to infants with severe eczema, egg allergy, or both, as early as 4 to 6 months of age to reduce the risk of peanut allergy.

More information is available from the FDA:

- FDA Response to Petition for a Qualified Health Claim for Ground Peanuts and Reduced Risk of Developing Peanut Allergy: <https://www.fda.gov/downloads/Food/IngredientsPackagingLabeling/LabelingNutrition/UCM575021.pdf>
- FDA Commissioner Statement: <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm575008.htm>
- Guidance for Industry: Evidence-Based Review System for the Scientific Evaluation of Health Claims: <https://www.fda.gov/Food/GuidanceRegulation/GuidanceDocumentsRegulatoryInformation/ucm073332.htm>
- Questions and Answers: Qualified Health Claims in Food Labeling: <https://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm207974.htm>
- Qualified Health Claims: Letters of Enforcement Discretion: <https://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm072756.htm>
- 2017 Addendum Guidelines for the Prevention of Peanut Allergy in the United States (NIAID, NIH):



If your infant has severe eczema and/or egg allergy, check with your infant's healthcare provider before feeding foods containing ground peanuts.

References:

1. Sicherer SH, Muñoz-Furlong A, Godbold JH, and Sampson HA. US prevalence of self-reported peanut, tree nut, and sesame allergy: 11-year follow-up. *J Allergy Clin Immunol*. 2010 Jun;125(6):1322-6. doi: 10.1016/j.jaci.2010.03.029. Epub 2010 May 11.
2. Du Toit G, Roberts G, Sayre PH, et al. Randomized trial of peanut consumption in infants at risk for peanut allergy. *N Engl J Med*. 2015 Feb 26;372(9):803-13. doi: 10.1056/NEJMoa1414850. Epub 2015 Feb 23.
3. Togias A, Cooper SF, Acebal ML, et al. Addendum guidelines for the prevention of peanut allergy in the United States: Report of the National Institute of Allergy and Infectious Diseases-sponsored expert panel. *Ann Allergy Asthma Immunol*. 2017 Feb;118(2):166-173.e7. doi: 10.1016/j.anai.2016.10.004.

Source: FDA Constituent Updates; Sep 7, 2017; <https://www.fda.gov/Food/NewsEvents/ConstituentUpdates/ucm575001.htm>

Folic Acid May Mitigate Autism Risk From Pesticides

Researchers at UC Davis and other institutions have shown that mothers who take recommended amounts of folic acid around conception might reduce their children’s pesticide-related autism risk (1).

In the study, children whose mothers took 800 or more micrograms of folic acid (the amount in most prenatal vitamins) had a significantly lower risk of developing autism spectrum disorder (ASD) – even when their mothers were exposed to household or agricultural pesticides associated with increased risk. The study appeared in the journal *Environmental Health Perspectives*.

“We found that if the mom was taking folic acid during the window around conception, the risk associated with pesticides seemed to be attenuated,” said Rebecca J. Schmidt, assistant professor in the Department of Public Health Sciences and first author on the paper. “Mothers should try to avoid pesticides. But if they live near agriculture, where pesticides can blow in, this might be a way to counter those effects.”

In the paper, which used data from the Childhood Autism Risks from Genetics and the Environment (CHARGE) study, researchers looked at 296 children between 2 and 5 who had been diagnosed with ASD and 220 who had developed typically. Mothers were interviewed about their household pesticide exposure during pregnancy, as well as their folic acid and B vitamin intake.

The team also linked data from California Pesticide Use reports, which provide important details about agricultural spraying, with the mothers’ addresses.

Mothers who took less than 800 micrograms and encountered household pesticides had a much higher estimated risk of having a child who developed an ASD than moms who took 800 micrograms of folic acid or more and were not exposed to pesticides. The associated risk increased for women exposed repeatedly. Women with low folic acid intake who were exposed to agricultural pesticides during a window from three months before conception to three months afterward also were at higher estimated risk.



Children whose mothers took 800 or more micrograms of folic acid had a significantly lower risk of developing autism spectrum disorder (ASD).



Dark leafy greens, such as spinach, are an excellent source of folate.

“Folic acid intake below the median and

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exposure to pesticides was associated with higher risk of autism than either low intake or exposure alone,” said Schmidt, a UC Davis MIND Institute faculty member. “The mothers who had the highest risk were the ones who were exposed to pesticides regularly.”

While folic acid did reduce the associated risk of a child developing autism, it did not entirely eliminate it.

“It would be better for women to avoid chronic pesticide exposure if they can while pregnant,” Schmidt said.

The authors caution that this is a case-control study that relied heavily on participants’

Reference:

1. Schmidt RJ, Kogan V, Shelton JF, et al. Combined Prenatal Pesticide Exposure and Folic Acid Intake in Relation to Autism Spectrum Disorder. *Environ Health Perspect.* 2017 Sep 8;125(9):097007. doi: 10.1289/EHP604.

Source: UC Davis Health Newsroom; Sep 8, 2017; <http://www.ucdmc.ucdavis.edu/publish/news/newsroom/12255>



The majority of processed grain products have been fortified with folic acid.

memories. In addition, they have yet to establish a causal link. However, these results certainly warrant larger studies to validate them. The team is also eager to investigate the mechanisms that contribute to folic acid’s possible protective effects.

“Folate plays a critical role in DNA methylation (a process by which genes are turned off or on), as well as in DNA repair and synthesis,” said Schmidt. “These are all really important during periods of rapid growth when there are lots of cells dividing,

as in a developing fetus. Adding folic acid might be helping out in a number of these genomic functions.”

Participating in SNAP Associated with Lower Health Care Costs

A new study published in *JAMA Internal Medicine* suggests that participating in the Supplemental Nutrition Assistance Program (SNAP) is associated with significantly lower health care costs compared to those who are not participating in SNAP (1).

Using NHANES data that was linked to Medical Expenditure Panel (MEP) data, the researchers were able to compare health care expenditures between those that participated in SNAP (n=1889) and those that did not (n=2558), while taking into account a number of factors



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that may be related to both SNAP enrollment and health care costs.

First, the research compared expenditures between the two groups while taking into account only age and gender, which resulted in no significant difference between those that participated in SNAP and those that did not (\$4628 and \$4594, respectively).

The authors then conducted a more detailed analysis that took into account several factors, including race/ethnicity, income, education, health insurance status (private, public, or uninsured), census region, and urban or rural location. Health status with relation to obesity, high blood pressure, heart disease, diabetes, stroke, arthritis, and chronic obstructive pulmonary disease were also included in the analysis.

Adding these variables to the analysis resulted in lower health care spending in those that participated in SNAP compared those that did not, with a difference of \$1409. The differences in expenditures were even larger among certain subgroups: those that participated in non-Medicare public insurance such as Medicaid

(-\$2544); those who were disabled (-\$3958); those with high blood pressure (-\$2654); and those with heart disease (-\$4109).

The authors noted that the average per-person SNAP benefit is approximately \$1500 per year, which is almost completely offset by lower health care expenditures among participants. They suggest that states may be interested in prioritizing SNAP enrollment, as SNAP benefits are federally-funded, while states and the federal government fund Medicaid jointly.

While this study found an association between SNAP participation and reduced health care expenditures, the researchers were only able to examine the relationship at a single point in time. Further research is needed to learn more about how health care spending changes over time in relation to SNAP participation, such as comparing health

expenditures before and after enrolling in SNAP and determining if longer duration of SNAP participation results in further reductions in health care spending.



The difference in health care spending for individuals with high blood pressure was \$2654 lower for those who participated in SNAP compared to those who did not.

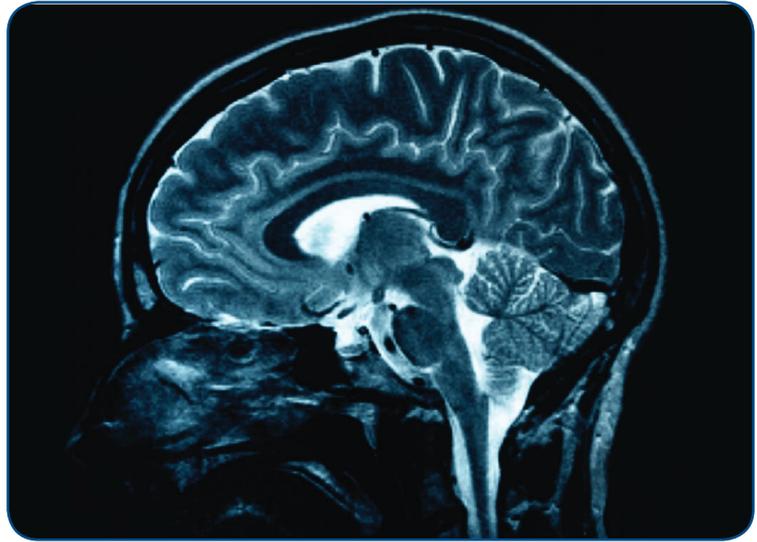
Reference:

1. Berkowitz SA, Seligman HK, Rigdon J, et al. Supplemental Nutrition Assistance Program (SNAP) Participation and Health Care Expenditures Among Low-Income Adults. *JAMA Intern Med.* 2017 Nov 1;177(11):1642-1649. doi: 10.1001/jamainternmed.2017.4841.

By Anna M. Jones; University of California, Davis, Department of Nutrition.

Do Palatable Foods Cause More Endorphins to be Released?

You may have heard talk recently about certain foods being addictive, but is there any research to support this? To explore this, researchers at the University of Turku in Finland have been examining the relationship between food and endogenous opioids, also known as endorphins (1). Endorphins cause feelings of pleasure; in animals it has been shown that eating palatable foods causes the release of endorphins in the brain. Individuals with binge eating disorder or who are obese tend to have fewer of the receptors that can detect endorphins, which suggests that there may be a connection between endorphins and obesity.



Individuals with binge eating disorder or who are obese tend to have fewer of the receptors that can detect endorphins.

This led the authors to examine whether food would lead to a release of endorphins in humans, and whether this release would be stronger following the consumption of a palatable meal (pizza) compared to a non-palatable meal (liquid nutritional drink) and a twelve-hour fast. They hypothesized that positron emission topography (PET) scans would reveal consumption of food would result in endorphin release and that consuming a more palatable meal would have a stronger response than the non-palatable meal.

Scans were performed on three separate days within a three to four week period at the same



The palatable meal in this study was pizza and diet cola. Those who expressed a dislike for pizza were not included in the study.

time of day for the participant (either in the morning or afternoon). Participants (n=10) consumed approximately 1100 calories of pizza with their preferred toppings accompanied by a diet cola. In order to be as consistent as possible between the pizza and nutritional drink, the drink was formulated match the pizza as closely as possible in calories, carbohydrate, protein, and fat. The total volume was 0.9 liters, so that it would match the volume of the pizza and diet cola after chewing.

Participants rated their feelings of happiness, anxiety, pleasantness, hunger, irritability, and thirst on a five-

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point scale before after arriving, as well as before and after each scan. While eating, they rated the deliciousness of the meal and their levels of satiety.

As the researchers hypothesized, the PET scans revealed that eating either meal resulted in the release of endorphins in the brain and that the participants rated the pizza meal as more delicious than the nutritional drink. Participants also indicated higher pleasure ratings following pizza compared to fasting. Unexpectedly, even though participants rated their pleasure lower after consuming the nutritional drink compared to the twelve-hour fast, the nutritional drink resulted in significantly larger increases in endorphins compared to the pizza.



The nutritional drink was composed of carbohydrate, whey powder, and canola oil.

the more pleasurable food would result in a greater endorphin release. That the nutritional drink resulted in a larger endorphin reaction was especially surprising considering that the nutritional drink was regarded as more unpleasant than a prolonged fast. One possible explanation is that the nutritional drink was digested and absorbed more quickly, resulting in a faster endorphin response. Future studies could compare enjoyable liquids such as milkshakes to the nutritional liquid for a more direct comparison. The authors also suggest that the pleasurable effects of food may work through other neurotransmitter systems. They conclude that while eating results in endorphin release, the relationship between food, self-reported pleasure, and endorphins is more complex than hypothesized.

The study authors had expected that

Reference:

1. Tuulari JJ, Tuominen L, de Boer FE, et al. Feeding Releases Endogenous Opioids in Humans. *J Neurosci*. 2017 Aug 23;37(34):8284-8291. doi: 10.1523/JNEUROSCI.0976-17.2017.

By Anna M. Jones; University of California, Davis, Department of Nutrition.

USDA Studies Feasibility of Electronic Disclosure of Bioengineered Ingredients in Foods

Over the last decade, consumers have been directing more attention to whether or not a food contains ingredients produced through genetic engineering, sometimes called bioengineering or genetically modified organisms (GMOs). In 2016, Congress passed a law to create a national standard for the disclosure of bioengineered ingredients by

manufacturers. One method that has been proposed is to provide bioengineering disclosures electronically through websites or smartphone apps.

To learn how feasible this would be, the USDA conducted a study to identify potential

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technological challenges that may impact whether consumers would have access to the bioengineering disclosure through electronic or digital disclosure methods.

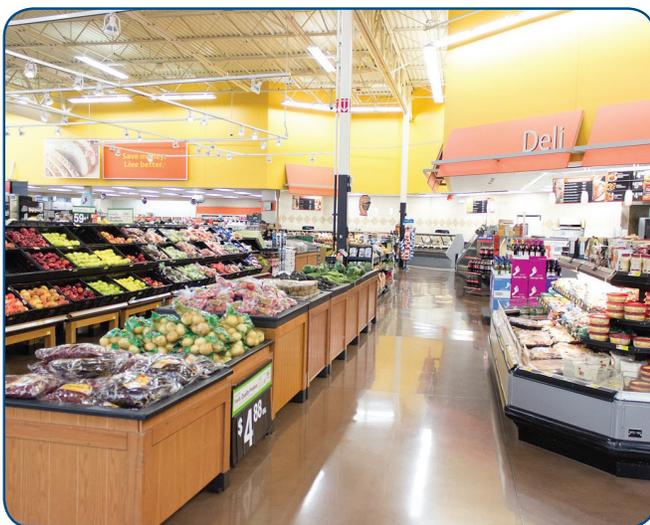
This study considered five factors:

- The availability of wireless Internet or cellular networks;
- The availability of landline telephones in stores;
- Challenges facing small and rural retailers;
- The efforts that retailers and other entities have taken to address potential technology and infrastructure challenges; and
- The costs and benefits of installing in retail stores electronic or digital link scanners, or other evolving technology that provide bioengineering disclosure information



Many of the crops grown in the U.S., including corn, have been bioengineered.

The study found that the majority of Americans own a smartphone (77 percent) and ownership rates are trending upward. They also found that most Americans live in areas with sufficient broadband access (93.6 percent) to scan a digital link to access bioengineering food disclosure information. In fact, most national and regional chain stores (97 percent) already offer WiFi in-store, although a much smaller proportion of small retailers (37 percent) provide WiFi.



While nearly all national and regional grocery chains provide WiFi access, the study found this would be a significant barrier for small stores and ones located in rural areas.

The biggest barriers to offering bioengineering disclosures electronically were that consumers might not recognize that digital links could provide more information about the product. Further, even when consumers recognize digital links they may lack familiarity with scanning the links; most consumers (85 percent) have experienced technical challenges using certain smartphone apps for scanning digital links. These barriers disproportionately impact low-income individuals, those in rural locations, and those above the age of 65.

One option would be to provide scanners in stores for consumers to use. While the scanners

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themselves are relatively inexpensive they usually require WiFi, which may be too costly for small and rural retailers.

The study suggests a few options that can be taken to overcome these challenges, including education for consumers and retailers, providing offline options for disclosures, such as text messages, and developing user-friendly scanner apps.

The Study of Electronic or Digital Disclosure Report can be found on the USDA Agricultural Marketing Service website at <https://www.ams.usda.gov/reports/study-electronic-or-digital-disclosure>.



Meat, fish, poultry, and other animal products would not be required to be labeled as bioengineered as a result of consuming bioengineered feed.

Adapted from: USDA AMS; Sep 6, 2017; <https://www.ams.usda.gov/reports/study-electronic-or-digital-disclosure>.

The Utility of Defining Metabolic Syndrome in Children



Is it useful to be able to define metabolic syndrome in children and adolescents? That is the question the *American Academy of Pediatrics* sought to answer in a recent clinical report on the topic (1).

Currently, metabolic syndrome in adults is defined as having at least three of the following five risk factors: hyperglycemia, large waist circumference, high blood triglycerides, low high-density lipoprotein (HDL) cholesterol, and high blood pressure, with specific diagnostic cutoffs for each. However, it's not clear if or how these risk factors apply to children and adolescents when it comes to their risk of cardiovascular disease.

In research studies focused on metabolic syndrome in children, more than 40 different pediatric definitions have been used. Even when using the same database (National Health and Nutrition Examination Survey, or NHANES) to determine prevalence, estimates

Currently there is no consensus on what the criteria should be for diagnosing metabolic syndrome in children.

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ranged from 4.2% to 9.2%, illustrating the lack of consensus.

The majority of children and adolescents that were identified to have metabolic syndrome were also identified as obese. This led the authors to question how useful a separate diagnosis for metabolic syndrome would be, especially considering that the treatments for obesity and for metabolic syndrome would likely overlap.

Several studies have also found that metabolic syndrome is unstable throughout childhood, with a large proportion of children who were identified as having metabolic syndrome no longer met the diagnostic criteria at follow-up three to six years later. The instability was not found to be related to change in weight status.

Taking all this into consideration, the authors concluded that it may be more useful to focus on cardiometabolic risk factor clustering instead of defining the specific criteria for metabolic syndrome in children and adolescents. By identifying children with multiple components of risk, the most intensive efforts can be focused on children that would benefit the most from intervention. They further caution

pediatricians to consider risk on a continuum, and not focus on specific levels of different risk factors.

The authors clarify that many of the already existing recommendations for screening would identify children at higher

cardiometabolic risk. These recommendations include:

- Annual obesity screening, with referral for comprehensive weight management for those with a BMI percentile at or above the 95th percentile.
- Annual screening for blood pressure
- Non-fasting non-HDL cholesterol or fasting lipid screening for children between ages 9 and 11 years
- Fasting glucose test every two years in children 10 years old and older that have a BMI at or above the 85th percentile and two additional risk factors for type 2 diabetes

The authors recommend early treatment of obesity as the first approach in addressing cardiometabolic risk, which is supported by the American Diabetes Association and American Heart Association.



The authors recommend regular screening for obesity, blood pressure, blood cholesterol, and in some cases, fasting glucose.

Reference:

1. Magge SN, Goodman E, Armstrong SC; et al. The Metabolic Syndrome in Children and Adolescents: Shifting the Focus to Cardiometabolic Risk Factor Clustering. *Pediatrics*. 2017 Jul 24. pii: e20171603. doi: 10.1542/peds.2017-1603.

By Anna M. Jones; University of California, Davis, Department of Nutrition.

Healthy Breakfasts for Kids: It's All About Balance

A healthy breakfast is a must for kids. Skip it and your kids will be playing nutritional catch-up for the rest of the day, says Carole L. Adler, M.A., R.D., a dietitian at the Food and Drug Administration (FDA).

When kids skip breakfast, they don't get what they need to be at their best, says Adler. "Growing bodies and developing brains need regular, healthy meals," she says. According to the Academy of Nutrition and Dietetics, studies show that school children who eat breakfast perform better in the classroom.

As with other meals, it's a good idea for your kids (and you) to eat a healthy balance of fruits and vegetables, proteins, grains and dairy—not just for breakfast but throughout the day.

Here are Adler's seven quick and easy breakfast tips to ensure your children start their day off right.



Aim for a breakfast with a healthy balance of fruits and vegetables, proteins, grains, and dairy.



Try mixing a small amount of sugary cereal into a healthier whole-grain cereal.

Breakfast doesn't have to mean traditional breakfast foods.

Anything goes, as long as you maintain a healthy balance. So if your kids want a change from cereal and eggs, think about serving leftovers from last night's dinner. There's nothing wrong with tuna fish with celery on a whole wheat English muffin or a turkey sandwich to start the day.

Give kids foods they like.

It's neither necessary nor effective to feed them foods they dislike. Do your kids turn up their noses at vegetables but love pizza? Left-over pizza with a whole-grain crust and veggies works for breakfast, too. Or make muffins with zucchini and carrots, and spread with peanut

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Breakfast (Continued from page 14)

butter or almond butter for protein with a glass of milk. Your kids love sugary cereal? Mix a little bit of that cereal with a whole-grain, nutrient-packed healthier brand of cereal. “Nothing has to be off the table altogether, and sometimes just a taste of something your kids like is enough to keep them happy,” Adler says.

Make healthy trade-offs.

Keep in mind that nutritional balance is key—not just for one meal but for foods eaten throughout the day. Not enough vegetables in the morning meal? Prepare extra carrot, celery, and broccoli sticks with a hummus dip as an afternoon snack.

Take growth and activity levels into account.

Growing bodies need nourishment. And if your kids are physically active to boot, they need plenty of calories to keep them fueled. Adler says that having a breakfast that contains protein, fat and carbohydrates helps children feel full and stay focused until lunch. Protein choices might include an egg, some nuts, a slice of deli meat or cheese, or a container of yogurt.

Help your children make healthy choices, even if they’re on the run.

When time is short, hand your kids

something healthy as they head out the door, like a piece of fruit, a bag of nut-and-fruit trail mix, or a whole-wheat tortilla spread with peanut butter or almond butter, and a carton of milk. “A fruit-filled shake with milk or yogurt takes only a couple of minutes to drink,” Adler says.



Prepping breakfast the night before can help streamline a busy more.

Prep the night before.

Morning is a busy time for everyone—you included. So take ten minutes to think ahead and prep for breakfast the night before. Chop up fruit to layer in a yogurt parfait or add to cereal. Cut up vegetables for an omelet. Mix up muffin or whole-grain waffle batter, cover, and put in the fridge. Get out a pan for pancakes or a blender for smoothies. Put a bowl of nut-and-fruit trail mix on the table for kids to grab a handful as they walk

out the door.

Use the Nutrition Facts label and ingredient statement when you shop.

“The label makes it easy to determine the amounts of nutrients your kids are getting and to compare one product to another,” Adler says. Make sure your children get nutrient-dense foods that are low in salt and added sugars.

Source: FDA Consumer Updates; Aug. 17, 2017; <https://www.fda.gov/ForConsumers/ConsumerUpdates/ucm456060.htm>

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