GROWING A HEALTHY NEXT GENERATION: EXAMINING FEDERAL CHILD NUTRITION PROGRAMS

HEARING

BEFORE THE

SUBCOMMITTEE ON CIVIL RIGHTS AND HUMAN SERVICES

COMMITTEE ON EDUCATION AND LABOR U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

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GROWING A HEALTHY NEXT GENERATION: EXAMINING FEDERAL CHILD NUTRITION PROGRAMS

Tuesday, March 12, 2019
House of Representatives
Committee on Education and Labor,
Subcommittee on Civil Rights and Human Services
Washington, DC

The Subcommittee met, pursuant to notice, at 10:15 a.m., in room 2175, Rayburn House Office Building. Hon. Suzanne Bonamici [chairwoman of the subcommittee] presiding.

Present: Representatives Bonamici, Schrier, Hayes, Trone, Lee, Comer, Thompson, Stefanik, and Johnson.

Also present: Representatives Shalala, Grothman, Allen, Watkins, Omar, Scott, and Foxx.

Staff present: Tylease Alli, Chief Clerk; Nekea Brown, Deputy Clerk; Ilana Brunner, General Counsel Health and Labor; Emma Eatman, Press Aide; Alison Hard, Professional Staff Member; Carrie Hughes, Director of Health and Human Services; Stephanie Lalle, Deputy Communications Director; Andre Lindsay, Staff Assistant; Richard Miller, Director of Labor Policy; Max Moore, Office Aid; Veronique Pluviose, Staff Director; Banyon Vassar, Deputy Director of Information Technology; Katelyn Walker, Counsel; Cyrus Artz, Minority Parliamentarian, Marty Boughton, Minority Press Secretary; Courtney Butcher, Minority Coalitions and Members Services Coordinator; Bridget Handy, Minority Legislative Assistant; Blake Johnson, Minority Staff Assistant; Amy Raaf Jones, Minority Director of Education and Human Resources Policy; Hannah Matesic, Minority Legislative Operations Manager; Kelley McNabb, Minority Communications Director; Jake Middlebrooks, Minority Professional Staff Member; Brandon Renz, Minority Staff Director; Mandy Schaumburg, Minority Chief Counsel and Deputy Director of Education Policy; and Meredith Schellin, Minority Deputy Press Secretary and Digital Advisor.

Chairwoman BONAMICI. The committee on Education and Labor will come to order. Welcome, everyone. I note that a quorum is present. I ask unanimous consent that Representative Shalala of Florida, Representative Omar of Minnesota, and Representative Grothman of Wisconsin be permitted to participate in today's subcommittee hearing with the understand that their questions will come only after all members of the Subcommittee on Civil Rights

and Human Services on both sides of the aisle who are present have had an opportunity to question the witnesses.

Without objection, so ordered.

The committee is meeting today in a hearing to hear testimony on Growing a Healthy Next Generation, Examining Federal Child Nutrition Programs. Pursuant to committee rule 7C opening statements are limited to the chair and ranking member. This allows us to hear from our witnesses sooner and provides all members with adequate time to ask questions. I recognize myself now for the purpose of making an opening statement.

We are here today to discuss our responsibility to make sure that all children have access to healthy food, all year round in and out of the classroom, and to discuss why doing so is a good investment.

More than 70 years ago, Congress passed the National School Lunch Act as, and I quote, "a measure of national security, to safeguard the health and well-being of the Nation's children."

Through the enactment of this first Federal child nutrition program, Congress recognized that feeding hungry children was a moral imperative and a vital tool to protect the health and security of our Nation.

Kids, families, and communities all do better when kids have nutritious food that helps them learn, grown, and thrive. Studies have found that healthier students are likely to have fewer absences and disciplinary issues.

When children have consistent access to nutritious food it improves their health and wellbeing from early childhood through adulthood. This, in turn, results in substantial long-term savings in healthcare and education.

Roughly 15 million households face food insecurity today. In my home State of Oregon, one in five kids live in a household where financial hardship makes it difficult to put food on the table. Child nutrition programs remain critical to preventing child hunger and setting a strong foundation for the next generation.

Today, child nutrition standards and programs like the National School Lunch Program, School Breakfast Program, and Child and Adult Care Feeding Program, and the Summer Food Service Program provide healthy meals for more than 30 million children in all 50 States all throughout the year. In Oregon, nearly 300,000 students participated in the National School Lunch Program, and nearly 150,000 students participated in the School Breakfast program in the school year 2017 to '18.

These programs have historically enjoyed bipartisan support in Congress and in communities across the country. We know that many communities do face challenges in feeding their children, and as a Congress, we should do more, not less, to address these issues. Unfortunately, yesterday the President made clear that he does not share these goals.

Under the President's budget proposal, roughly 1.3 million additional children would go without free school meals. That is a lot of hungry children. This hearing will be an opportunity for all Members to hear about why these programs are vital to the health and success of communities across the country from Oregon to Kentucky and everywhere in between.

I hope this hearing is a first step toward renewing the historically bipartisan commitment to childhood nutrition, and I look forward to hearing more about these important programs. Congress and this Committee have a responsibility to make sure that every child has access to a quality education. Child nutrition programs are an important part of making sure that education results in every child having the foundation for a healthy and productive future.

I want to thank all of our witnesses for being with us here today and I look forward to your testimony. I now recognize the distinguished Ranking Member Mr. Comer for the purpose of making an opening statement.

[The statement of Chairwoman Bonamici follows:]

Prepared Statement of Hon. Suzanne Bonamici, Chairwoman, Subcommittee on Civil Rights and Human Services

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I want to thank all of our witnesses for being with us today; I look forward to your testimony. I now yield to the Ranking Member, Mr. Comer.

Mr. COMER. Thank you, Madam Chairman. I would like to thank my colleagues across the aisle for holding today's hearing.

Before coming to Congress I served as Kentucky's Commissioner of Agriculture where I worked with school food service personnel from school districts across the Commonwealth to promote initiatives, including the Farm to School Program, encouraging fresh Kentucky proud foods to be served in local cafeterias.

As I met with these local administrators they consistently emphasized the crucial role that child nutrition programs play in supporting kids' health development, especially the free and reduced price meals offered through the Federal School Meal Programs.

Free and reduced prices meals ensure that children from low income households have reliable access to nutritious breakfasts and lunches while at school. Each school year nearly 30 million lunches are served to students each day with most participants receiving a free or reduced price meal. Program participation has been steadily rising for decades, but in 2012 the Obama Administration finalized an onslaught of Federal mandates on school nutrition, delivering a blow to many cafeteria operations. Schools had to overhaul their menu programming, including meeting new requirements that limit the kind of milk they can offer, mandate the color of vegetables they must serve and limit the type of grains they must use.

Since the Obama Administration enacted the regulations housed in the Healthy and Hunger-Free Kids Act school lunch program operating costs have risen while National program participation has dropped. While we would hope that means there are fewer hungry children in this country we have reason to believe that is not the case. School districts already tasked with operating on a tight budget now face higher cafeteria operation costs, onerous compliance rules, and mounting food waste problem as students pass up the food that cafeterias are now required to serve.

When kids are at school they do not have a parent there encouraging them to eat the green peas on their plate. And while I know cafeteria professionals are doing all they can to get kids to eat their vegetables the truth is some kids just are not going to try them. However well-intentioned these requirements may be they are limiting program effectiveness and causing students to forgo the meals they need. Kids deserve health and nutritious meals at school, but if the Federal Government mandates meals that students will not eat than Washington is categorically failing to combat hunger. For these reasons Agriculture Secretary Sonny Perdue recently finalized new rules easing requirements on sodium, milk, and whole grains.

School districts will benefit from these eased requirements and Congress should take note. While many folks found ways to help limit waste and increase participation I hope this new limited flexibility from USDA will boost meaningful participation in these programs and result in less tax payer dollars being thrown straight into the cafeteria trashcan. Congress should work with these States to provide school districts with greater latitude over their offerings. By delivering this flexibility and limiting burdensome paperwork school districts will be able to customize their cafeteria menus to give the students they know and serve health options they will enjoy.

As a farmer myself, I understand the importance of supporting local farmers by providing school access to local farm fresh ingredi-

ents, and with three young children in public schools I certainly understand the duty we have to educate our growing children about eating balanced meals. I look forward to today's conversation and am hopeful we can find a solution that helps lower program costs, eliminates food waste, and ensures that students have access to nutritious, enjoyable meals.

[The statement of Mr. Comer follows:]

Prepared Statement of Hon. James Comer, Ranking Member, Subcommittee on Civil Rights and Human Services

Thank you for yielding.

I'd like to thank my colleagues across the aisle for holding today's hearing. Before coming to Congress, I served as Kentucky's Agriculture Commissioner where I worked with school food service personnel from school districts across the commonwealth to promote initiatives including the Farm to

School Program, encouraging fresh, "Kentucky Proud" foods to be served in local cafeterias. As I met with these local administrators, they consistently emphasized the crucial role that child nutrition programs play in supporting kids' healthy development, especially the free and reduced-priced meals offered through the Federal school meal programs.

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I look forward to today's conversation and am hopeful we can find a solution that helps lower program costs, eliminates food waste, and ensures that students have access to nutritious, enjoyable meals.

Mr. COMER. Madam Chairman, I ask unanimous consent to insert two letters into the record. One from the council of the Great City Schools and the National School Board Association supporting the new school meal regulatory flexibility.

Chairwoman BONAMICI. Without objection.

Mr. COMER. And with that I yield back.

Chairwoman BONAMICI. Thank you, Mr. Ranking Member. Without objection all other members who wish to insert written statements into the record may do so by submitting them to the Committee clerk electronically in Microsoft Word format by 5 p.m. on March 25, 2019.

I will now introduce our witnesses. Dr. Eduardo Ochoa is the principle investigator for the Children's Health Watch Little Rock site at Arkansas Children's Hospital. His research interests include Latino health, health disparities, children with special health needs, and community engagement. He is a fellow of the American Academy of Pediatrics and a tenured associate professor of pediatrics at the University of Arkansas for Medical Sciences.

Nikki Berlew O'Meara is a 33-year old mother of two who lives in Wilkes Barre, Pennsylvania. Her son James is in the third grade and her daughter Natalie is in kindergarten. They both love to do Cub Scouts, read books, and go swimming. An active volunteer, Berlew-O'Meara is secretary of her children's parent/teacher association, assistant den leader for a lion scout den, and a board member for Queer Northeastern Pennsylvania Acts. Berlew-O'Meara holds a bachelor of science in psychology from, this is going to be hard, Misericordia. Was I close?

Ms. BERLEW-O'MEARA. Very close, ma'am. Misericordia.

Chairwoman BONAMICI. Misericordia University.

Ms. BERLEW-O'MEARA. It is tiny.

Chairwoman BONAMICI. Now, I am pleased to recognize my colleague Representative Allen to introduce his constituent who is appearing before us as a witness today.

Mr. ALLEN. Thank you, Chairwoman Bonamici and Ranking Member Comer for allowing me to cross committees. I am on two other subcommittees here on the Educational Labor Committee, but I had to be here this morning, and when I say I had to be here I was not going to miss this because one of my favorite people are here.

I am pleased to introduce my friend Donna Martin who is a registered dietician and nutritionist and is currently the director of Burke County School Nutrition Program in Waynesboro, Georgia. And the past president of the Academy of Nutrition and Dietetics. She has worked in the area of school nutrition for over 25 years in both large systems with over 38,000 students, and currently in a small system with 4,500 students.

Donna's school system operates the National School Breakfast Program, the National School Lunch Program, the After School at Risk Snack Program, the Fresh and Fruit, Vegetable Grant Program, the Supper Program, and the Summer Feeding Program. Donna has long been dedicated to improving the health of her students at school by offering nutritionally balances meals that also teach the students about good nutrition.

Donna has a master's degree in clinical nutrition from the University of Alabama in Birmingham, and a specialist degree in administration and supervision from Augusta University in Augusta, Georgia. In 2006 Donna received a Summer Sunshine Award for the southeast region of the United States from USDA for innovation in implementing the Summer Food Service Program. Burke County is a very large rural county. In fact, it's the largest county in our district. They decided to serve the children over the summer out of school buses that made stops throughout the county so that kids would have access to summer meals.

Donna was also awarded the 2016 Golden Radish Award for the State of Georgia because of her efforts in the farm to school movement. I have visited Donna's district on numerous occasions to eat lunch and to participate in her farm to school events. In fact, as a Member of Congress I have never missed that event, and good lord willing I will never miss that event. It is my favorite time. Obviously, you can tell that I do love good food, and it is the best.

And these students are just, I mean, in fact, they grow their own food there. I mean, it is just incredible. But I have seen first-hand how the students love her program. Thank you, Donna, for sharing your testimony today, and it is always great to see you.

Chairwoman BONAMICI. Thank you, Representative Allen. I am pleased to recognize my colleague Representative Watkins to briefly introduce his constituent who is appearing before us as a witness today.

Mr. WATKINS. Thank you, Chair, and thank you ranking members for allowing me to introduce my constituent. It is a better panel because of you, Ms. Johnson, and we are a healthier state because of you. Thank you for being here and god bless you.

Ms. Johnson is the director of child nutrition and wellness for the Kansas State Department of Education. As director, she serves as the liaison between the State Department of Education and the Food and Nutrition Service at the USDA. Cheryl and her team administer the nutrition programs in Kansas and then provide leadership and training and monitoring for over 800 local sponsors who provide over 102 million meals and snacks to Kansas children in 2018 alone. They strive to make nutrition and wellness an integral part of a student's success.

Cheryl has worked as Director of Nutrition Services at the Kansas Neurological Institute, and as a consultant dietician, and as an adjunct professor at Topeka's own Washburn University, Go Ichabods. She holds a B.S. in food and nutrition and a master's in dietetics and institutional management from Kansas State University. Go Cats. She is a registered and licensed dietician and a Kansas Health Foundation leadership fellow. She has served on the School Nutrition Association's Governance Board, the Governor's Council on Fitness, the USDA Professional Standards Work Group, and KSU Human Ecology Alumni Board, and Dietetics Advisory Board.

My mother is Barbara Watkins and taught Cheryl's son Craig at Logan Junior High and taught her other son Kyle at Seaman High School in Topeka. However, my mother did not teach your youngest son Mark who he, himself, is now a teacher, as I understand. Need-

less to say, thank you for being here, Ms. Johnson. It is a pleasure to have you and it is a pleasure to introduce you.

Chairwoman BONAMICI. Thank you, Mr. Watkins. We appreciate all of the witnesses for being here today and we look forward to your testimony. Let me remind the witnesses that we have read your written statements and they will appear in full in the hearing record. Pursuant to Committee Rule 70 and committee practice, each of you is asked to limit your oral presentation to a 5-minute summary of your written statement.

I will also remind the witnesses that pursuant to Title 18 of the U.S. Code Section 1001 it is illegal to knowingly and willfully falsify any statement, representation, writing document or material fact presented to Congress or otherwise conceal or cover up a material fact.

Before you begin your testimony please remember to press the button on the microphone in front of you so it will turn on and the Members can hear you. As you begin to speak the light in front of you will turn green. After 4 minutes the light will turn yellow to signal that you have 1 minute remaining. When the light turns red your 5 minutes have expired and we ask that you please wrap up your testimony.

We will let the entire panel make their presentations before we move to Member questions. When answering a question please remember to, once again, turn on your microphone.

I first recognize Dr. Ochoa.

STATEMENT OF DR. EDDIE OCHOA, ASSOCIATE PROFESSOR OF PEDIATRICS, UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES COMMUNITY PEDIATRICS MEDICAL DIRECTOR, ARKANSAS CHILDREN'S HOSPITAL

Dr. OCHOA. Thank you very much, Madam Chair Bonamici and other members of the House Committee on Education and Labor for the opportunity to submit this testimony. My name is Dr. Eduardo Ochoa and I am a general pediatrician practicing at Arkansas Children's Hospital in Little Rock. I am also a faculty member at the University of Arkansas for Medical Sciences, and a principle investigator with Children's Health Watch, a non-partisan network of pediatricians and public health researchers committed to improving the health of young children and their families by informing policies that address and alleviate economic hardships.

I am also a member of the American Academy of Pediatrics, a non-profit professional membership organization of 67,000 primary care pediatricians and medical and surgical pediatric sub-specialists dedicated to the health and well-being of all infants, children, adolescents and young adults. The testimony I give today is on behalf of Children's Health Watch and the American Academy of Pediatrics.

As a practicing pediatrician I know the importance of consistent access to nutritious foods for healthy growth and development among my young patients. This is one of the main reasons why we have been screening for food insecurity and other social needs for several years in the primary care clinics at Arkansas Children's Hospital. Through this effort we have found that about a quarter of our patients are food insecure.

Decades of research has documented the adverse health effects of food insecurity on the health, growth, development, and educational outcomes of children from infancy through adolescence. Naomi is one such patient who we identified as having food insecurity. I talked with her mother who did not know that I also work at the clinic where Naomi was seen recently. Naomi's mom recounted that she was in clinic for Naomi's checkup and was surprised that she was asked to complete a questionnaire that asked about social needs. She responded with two affirmative answers to the hunger vital sign, a measure validated by Children's Health Watch and endorsed as a best practice by the American Academy of Pediatrics.

Naomi's mother's earnings at work are stretched thin, and even though Naomi is fed at her head start program there's still worry about whether the food at home will run out before she has money to buy more. They left our clinic with a full grocery bag and a list of local resources to get more when she needed it.

It is great that we could help Naomi and her family, but this help is very short term and childhood hunger and its sequelae of adverse health consequences should not have to persist in this country. Federal nutrition programs that feed millions of children every day are an effective solution for both reducing hunger and food insecurity, and improving the health and well-being of growing minds and bodies.

For these reasons I am pleased to discuss the importance of child nutrition programs in the United States, including the National School Lunch Program and School Breakfast Program, the Child and Adult Care Food Program, and the Summer Food Service Program. This committee has a unique opportunity to invest in our Nation's children by investing in programs that feed children from their earliest days through the end of high school, setting them up for a health start in life.

The National School Lunch and School Breakfast Programs feed 30 million children healthy meals each school day across the country. Research shows NSLP and SBP are associated with numerous benefits for children, including reduced food insecurity, improved test scores, lower rates of absences and tardiness, improved dietary intake, and lower risk of obesity. I know the value of proper nutrition in schools for my patients. Many children, especially those from low income families, consume up to half of their daily calories at school. And for some children, including those whom I see in my clinic, the meals they eat at school may be the only meals they eat in a day.

This is why evidence-based meal standards that are age appropriate for growing bodies and brains are necessary. In a country where obesity affects nearly one in five children which places children at greater risk of cardiovascular disease and diabetes, healthy school meal are necessary for reversing this concerning health trend. In fact, just recently in my home State of Arkansas, results were released from a Centers for Disease Control funded study on sodium reduction in school meals.

The study was conducted in partnership with 30 schools in northwest Arkansas with the goal of reducing dietary sodium intake in food service procurement and preparation. The study found

an 11 percent decrease in sodium content in the meals served over the course of a year, and underscored that a comprehensive approach to healthier diets through reduced sodium is feasible. Given the wealth of evidence on the need to increase intake of nutritious foods for health weights and prevention of chronic illness I hope this Committee will continue to ensure the retention of nutrition standards set according to prevailing science.

Since 2013 Arkansas Children's Hospital has provided lunches year round to children as a sponsor site of the Summer Food Service Program and the Child and Adult Care Food Program. From August 2017 to '18 we provided approximately 27,000 meals to children and their siblings seen in our clinics. Because I know that many of the children in our service area receive care in the primary care clinics at Children's I take comfort in knowing that we are asking about food insecurity and have several tools, including CACFP and Summer Feeding to help alleviate this experience over the summer.

For young children, WIC and CACFP play an important role in ensuring that children have nutritious, age appropriate food, and have the best opportunity for brain and body growth. In Arkansas my department at the University of Arkansas for Medical Sciences runs the Head Start Program in our county and gives nearly 2,500 meals per day to children across 13 sites. I can tell you that our nutrition director has said that children are asking for more vegetables like spinach that they've eaten at Head Start for the first time to be purchased at home.

In summary, Federal child nutrition programs feed children every day, preventing them from going hungry and ensuring they have a healthy start in life, no matter where they live. Investing in these programs is an investment in the future health and well-being of our country. I look forward to discussing potential policy solutions for strengthening and improving these programs so they reach more children. Thank you for your time.

[The statement of Dr. Ochoa follows:]

CHILDREN'S HealthWatch

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

Testimony
Before the Subcommittee on Civil Rights and Human Services
Committee on Education and Labor
United States House of Representatives

Hearing
Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs
Tuesday, March 12, 2019

Statement of Dr. Eduardo Ochoa, Jr.
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Thank you, Chairman Scott and distinguished members of the House Committee on Education and Labor, for the opportunity to submit this testimony. My name is Dr. Eduardo Ochoa and I am a general pediatrician practicing at Arkansas Children's Hospital in Little Rock. I am also a faculty member at the University of Arkansas for Medical Sciences and a Principal Investigator with Children's HealthWatch, a non-partisan network of pediatricians and public health researchers committed to improving the health of young children and their families by informing policies that address and alleviate economic hardships. I am also a member of the American Academy of Pediatrics (AAP). The AAP is a non-profit professional membership organization of 67,000 primary care pediatricians and medical and surgical pediatric subspecialists dedicated to the health and well-being of all infants, children, adolescents, and young adults.

The testimony I give today is on behalf of Children's HealthWatch and the American Academy of Pediatrics.

As a practicing pediatrician, I know the importance of consistent access to nutritious foods for healthy growth and development among my young patients. This is one of the main reasons why we have been screening for food insecurity and other social needs for several years in primary care clinics at Arkansas Children's Hospital. Through this effort we have found that about a quarter of our patients are food insecure. Decades of research has documented the adverse health effects of food insecurity on the health, growth, development, and educational outcomes of children from infancy through adolescence.

Naomi is one such patient who we identified as having food insecurity. I talked with her mother, who didn't know that I also work at the clinic where Naomi was seen recently. Naomi's mom recounted that she was in clinic for Naomi's check-up and was surprised that she was asked to complete a questionnaire that asked about social needs. She responded with two affirmative answers to the Hunger Vital Sign, a measure validated by Children's HealthWatch research and endorsed as a best practice by the American Academy of Pediatrics. Naomi's

mother's earnings at work are stretched thin, and even though Naomi is fed at her Head Start program, there is still worry about whether the food at home will run out before she has money to buy more. They left our clinic with a full grocery bag and a list of local resources to get more when she needed it.

It is great that we could help Naomi and her family, but this help is very short-term, and childhood hunger and its sequelae of adverse health consequences should not have to persist in this country. Federal nutrition programs that feed millions of children every day are an effective solution for both reducing hunger and food insecurity and improving the health and well-being of growing minds and bodies.

For these reasons, I am pleased to discuss the importance of child nutrition programs in the United States, including the National School Lunch Program (NSLP) and School Breakfast Program (SBP), the Child and Adult Care Food Program (CACFP), and the Summer Food Service Program (SFSP). This committee has the unique opportunity to invest in our nation's children by investing in programs that feed children from their earliest days through the end of high school, setting them up for a healthy start in life.

The National School Lunch Program (NSLP) and School Breakfast Program (SBP) feed 30 million children healthy meals each school day across the country. Research shows NSLP and SBP are associated with numerous benefits for children including reduced food insecurity, improved test scores, lower rates of absences and tardiness, improved dietary intake, and lower risk of obesity.

I know the value of proper nutrition in schools for my patients. Many children, especially those from low income families, consume up to half of their daily calories at school and for some children, including those whom I see in my clinic, the meals they eat at school may be the only meals they eat in a day. This is why evidence-based meal standards that are age-appropriate for growing bodies and brains are necessary. In a country where obesity affects nearly one in five

children, which places children at greater risk of cardiovascular disease and diabetes, healthy school meals are necessary for reversing this concerning health trend. In fact, just recently in my home state of Arkansas, results were released of a Centers for Disease Control study on sodium reduction in school meals. The study was conducted in partnership with 30 schools across Arkansas with the goal of reducing dietary sodium intake in food service, procurement and preparation. The study found an 11 percent decrease in sodium content in the meals served over the course of a year and underscored that a comprehensive approach to healthier diets through reduced sodium is feasible. Given the wealth of evidence on the need to increase intake of nutritious foods for healthy weights and prevention of chronic illnesses during childhood and later in life, I hope this committee will continue to ensure the retention of nutrition standards set according to prevailing nutrition science.

We also need to ensure that all children living in families at risk of food insecurity are able to access the programs. The Community Eligibility Provision (CEP) is an effective and efficient way to enroll children in school meals programs in areas with high rates of poverty and where families are more likely to be experiencing food insecurity in school meals. As a pediatrician in a rural state, I know the value of CEP, especially in areas that have high rates of poverty, but low population density. Removing barriers to nutritious food through CEP is an effective strategy for feeding children in these communities.

During the summer when school is out, we know that children are at greater risk of hunger without this regular access to food. Summer Nutrition Programs provide breakfast and lunch to children throughout the summer. These programs are critically important to keep children healthy when school is out and they no longer have access to school lunch and breakfast. In just one month of summer 2017, the programs served 3 million children across the country. While this is laudable, it is not enough. Summer Nutrition Programs do not reach all of the children that need them. In fact, only one in seven children who ate a free or reduced-price school lunch during the 2016-2017 school year participated in Summer Nutrition Programs in July 2017. Summer breakfast reaches even fewer children, despite its critical importance. In July 2017,

summer breakfast reached just over half of children participating in summer lunch. Policies and investments that expand access to summer meals are critical.

Since 2013, Arkansas Children's Hospital has provided lunches year-round to children as a sponsor site of the Summer Food Service Program and the Child and Adult Care Food Program. From August 2017 to August 2018 we provided approximately 27,000 meals to children and their siblings seen in our clinics. Because I know that many of the children in our service area receive care in the primary care clinics at Arkansas Children's Hospital, I take comfort in knowing that we are asking about food insecurity and have several tools, including the Summer Food Service Program and CACFP, to help those families alleviate some of the hunger they experience over the summer. The hospital also ensures that families with children of all ages can access nutrition assistance programs by employing financial counselors trained to assist families with SNAP applications when applying for Medicaid, and by having a WIC office onsite open one day per week. Due to time constraints, I will not discuss the robust and important evidence base about the many benefits of WIC, however, my written testimony provides you with those details.

For young children, WIC and CACFP play an important role in ensuring that children have nutritious, age-appropriate food and have the best opportunity for brain and body growth. In fiscal year 2017, CACFP fed more than 4 million children across our country who attended participating child care programs, like Head Start. My department at UAMS in Arkansas is the grantee for the Head Start program in Pulaski County. We serve nearly 900 children in Head Start and Early Head Start, and depend on CACFP to provide two meals and a snack each school day to the children in our 13 sites totaling nearly 2,500 meals per day. I can tell you that our nutrition director at the UAMS Head Start program has heard from parents that their children are asking for new fruits and vegetables they've tried at school to be served at home. For example, one parent recently said that her son asked her to purchase spinach from the store because he had eaten it at school. And another parent stated that she was grateful that her

child was eating nutritious meals and snacks because the family struggles to afford healthy food at home.

In summary, federal child nutrition programs feed children every day preventing them from going hungry and ensuring they have a healthy start in life no matter where they live. Investing in these programs is an investment in the future health and well-being of our country. I have submitted to the record a formal written testimony with detailed information on and citations for the extensive research conducted on the benefits each of these programs. I have also included evidence-based policy recommendations for each program. I look forward to discussing potential policy solutions for strengthening and improving these programs so they reach more children.

Chairwoman BONAMICI. Thank you, Dr. Ochoa, for your testimony. I know recognize Ms. Johnson for 5 minutes for your testimony.

STATEMENT OF CHERYL JOHNSON, DIRECTOR OF CHILD NUTRITION AND WELLNESS, KANSAS STATE DEPARTMENT OF EDUCATION

Ms. JOHNSON. Good morning, Madam Chair, Ranking Member Comer, and members of the Committee. I appreciate Congressman Watkins for his kind introduction. Thank you for inviting me today and for your interest in making sure students have access to healthy meals that impact student success. Child nutrition programs provide a strong safety net for children by ensuring their nutrition needs are met while providing nutrition education, and they contribute to growing a health next generation which lead the lifelong benefits.

Decisions about the specific foods to serve and the methods of preparation are made by the local school food authorities. The USDA final rule child nutrition programs, flexibilities for milk, whole grains, and sodium requirements increased many planning flexibilities for school year 1920. They include providing the option to offer flavored low fat milk, requiring that half of the weekly grains be whole grain rich, and provide more time to reduce sodium levels. Kansas schools are doing an excellent job implementing the nutrition standards and serving tasty meals, and have expressed appreciation for these small tweaks. Many have indicated they will continue to offer more than the minimum required 50 percent whole grain rich products, but welcome the opportunity to reintroduce some favorite items of students such as homemade macaroni and cheese, and homemade chicken and noodles. Industry has been working hard to reduce sodium levels in food products. This final rule provides more time for research and development of tasty options that students will eat. Allowing flavored low fat milk to be offered as a milk choice may result in increased consumption.

As direct of the State agency it is appreciated when flexibilities are put into permanent regulation, as opposed to being allowed via a waiver. Waivers take a great deal of State agency and local educational agency resources to write, process, review for approval, and then collect and report data. The Health Hunger-Free Kids Act gave USDA the authority to regulate other foods in the school environment. Monitoring foods outside the school nutrition program has increased time required to complete the administrative review, and increase the record keeping burden for schools to track that nutritional content of foods sold outside the school meal programs. Currently, not all food items served as a part of the reimbursable meal can be served a la carte. One example as school food service director uses frequently is they can serve broccoli with limited cheese, a little cheese to make kids consume it, but it cannot be sold separately on the a la carte serving line. Two sets of standards are confusing.

USDFNS has adopted customer service as a strategic priority and listened to concerns from State agency directors. The recent policy memo flexibility for administrative review cycle requirements will allow State agencies to request waivers of the 3-year re-

quirement and extend the review cycle if it hinders State effective allocation of State agency resources. This is another instance where a waiver is required, and it would reduce State agency burden if it could be put into regulation.

In Kansas, an increasing number of local educational agencies are now also implementing the Summer Food Service Program and the Child and Adult Care Food Program. To decrease burden we are working to develop one application for multiple programs instead of three separate applications. Schools administering multiple programs have indicated they could operate more efficiently if their site review and reporting requirements could be streamlined. Burden could also be reduced in administering the Summer Food Service Program in rural communities and access increased if there were flexibilities available regarding congruent meal requirements.

While many of the child nutrition program regulations are the same for all of the three major programs it is challenging to streamline when there are miniscule program differences. For example, in the Child and Adult Care Food Program meal pattern for per-K it requires 1.5 ounce meat alternate. Yet, the meal pattern for K–5 in school nutrition programs only requires 1 point meal equivalent, 1 ounce meal equivalent. Milk, fat, and flavor requirements are also not consistent between the programs. It is possible to serve a granola bar for school breakfast and in the after school meal program, but you cannot serve those as a part of the Child and Adult Care Program at Risk after School Meal Program.

It is essential to have a sufficient lead time to work with local educational agencies once regulatory guidance is received. For example, many schools write menus and begin the procurement process for the next school year in the winter of the current school year. When policy memos and guidance are provided in the spring or summer for the upcoming school year it is challenging to implement these and able to have competitive procurement and pricing.

If USDA is continuing their willingness to listen to other folks, including State agencies and local education agencies, including food service directors, administrators, school boards, and parents, and obtain input I do think that this makes the reality of policy implementation more effective. Schools are leading culture change in instill health habits for a lifetime, and child nutrition professionals are leading this change to instill the health habits. And we do appreciate your willingness to help them efficiently and effectively serve the children.

[The statement of Ms. Johnson follows:]

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Testimony

Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs

Committee on Education and Labor
U.S. House of Representatives

Cheryl S. Johnson, MS, RD, LD
Director, Child Nutrition & Wellness
Kansas State Department of Education

March 12, 2019

Good morning, Madame Chair, Ranking Member Comer, and members of this committee. I am Cheryl Johnson, Director of the Kansas State Department of Education's (KSDE) Child Nutrition & Wellness team. I have been the State Director since August 2010 and led the implementation of the Healthy, Hunger-Free Kids Act of 2010. It included 52 provisions making historic changes to give students healthier meal options. The Kansas Child Nutrition & Wellness team administers the following USDA Child Nutrition Programs: the National School Lunch Program, School Breakfast Program, Special Milk Program, Afterschool Snack Program, Child and Adult Care Food Program, Summer Food Service Program, and the Fresh Fruit and Vegetable Program to promote the health and well-being of children. Currently, I also lead the administration of competitive grants awarded by USDA including two Team Nutrition grants, a Technology Innovation Grant and the Child and Adult Care Food Program Meal Pattern Implementation Grant in addition to a Wellness Policy Implementation Grant awarded by the Kansas Health Foundation. Thank you for inviting me to speak today and for your interest in making sure students have access to healthy meals that impact student success.

Overview

Child Nutrition Programs provide a strong safety net for children by ensuring their nutrition needs are met while also providing nutrition education. The Food and Nutrition Service of the United States Department of Agriculture administers Child Nutrition Programs at the Federal level. At the State level, the Child Nutrition Programs are administered by State Agencies, which operate the programs through agreements with local sponsoring organizations, including School Food Authorities. At the state level, we have five major responsibilities: (1) program approval, (2) regulatory oversight, (3) technical assistance, (4) education and skill development, and (5) payment of reimbursement and grant funds to Local Educational Agencies. Providing nutrition staff with quality education, skill development and technical assistance results in compliance and excellent programs with integrity. To that end, the Child Nutrition & Wellness team offers a wide variety of professional development opportunities. In FY 2018, registrations for classes and workshops exceeded 16,000. My team works to administer and implement the federal Child Nutrition Programs so that Local Education Agencies, Residential Child Care Institutions, Summer Food Service Program Sponsors and Child Care Facilities provide participants with nutritious and appealing meals, comply with federal and state requirements, operate efficient and effective programs and contribute to growing a healthy next generation leading to lifelong benefits.

Federal Reimbursement
Schools that participate in the school nutrition programs receive reimbursement from USDA for each meal and or snack served to eligible students based on their free, reduced price, or paid status. Current National School Lunch Program reimbursement rates are: free lunch, $3.41; reduced price lunch, $3.01 and paid lunch, $0.4125. Schools that are certified to be in compliance with the Program meal pattern receive an extra 6 cents per lunch served. The extra 6 cents is included in the rates listed above. All Kansas schools are certified as meeting the federal meal pattern requirements. USDA Foods also contribute to school meals currently at the rate of $0.2350 per lunch. In return, schools must serve meals and/or snacks that meet federal meal pattern requirements, and offer the meals at a free or reduced price to eligible children.

Nutrition Standards
Decisions about the specific foods to serve and the methods of preparation are made by local School Food Authorities. Nutrition Standards are based on the *Dietary Guidelines for Americans* and the science-based recommendations made by the Institute of Medicine. The Nutrition Standards for School Meals are a food-based menu planning system based on a meal pattern containing specific food group components. These components are meat/meat alternate, vegetables, fruits, grains and milk. Schools must offer the food components in specified quantities to meet nutrition goals. Portion sizes are established for three age/grade groups.

The USDA Final Rule *Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements* (FNS-2017-0021) increased menu planning flexibility in the National School Lunch Program, School Breakfast Program, and other Federal child nutrition programs effective School Year 2019-2020. The rule:

- Provides the option to offer flavored, low-fat milk to children participating in the school meal programs, and to participants ages six and older in the Special Milk Program for Children and the Child and Adult Care Food Program;
- Requires that half of the weekly grains in the school lunch and breakfast menu be whole grain-rich; and
- Provides more time to reduce sodium levels in school meals.

Kansas schools are doing an excellent job implementing the nutrition standards and serving tasty meals but have expressed appreciation for these small tweaks to the nutrition standards. Many have indicated that they will continue to offer more than the minimum required 50% whole grain-rich products. Schools welcome the opportunity to reintroduce favorite items of students which had been removed from the menu due to lack of acceptance when made with a whole grain-rich ingredient. Homemade macaroni and cheese and chicken and noodles are two examples. Industry has been working hard to reduce sodium levels in food products. This final rule provides more time for research and development of tasty options that students will eat. Allowing flavored, low-fat milk to be offered as a milk choice may result in increased consumption. As the Director of a State Agency, it is appreciated when flexibilities are put into permanent regulation as opposed to being allowed via a waiver. Waivers take a great deal of State Agency and Local Educational Agency resources to write, process, review for approval and then collect and report data.

Smart Snacks in Schools
The Healthy, Hunger-Free Kids Act of 2010 gave USDA the authority to regulate other foods in the school environment. Sometimes called "competitive foods", these include foods and drinks sold in a la carte lines, vending machines, snack bars, concessions stands and fundraisers during the school day. Monitoring foods sold outside the school nutrition program has increased time required to complete the State Agency Administrative Review and increased the recordkeeping burden for the Local Educational Agency to track nutritional content of foods sold outside the school meal programs. Currently not all food items, only the entrée, that are a part of the reimbursable meal are allowed to be sold a la carte. This is confusing to school personnel and students. For example, broccoli with cheese served as part of the reimbursable meal, cannot be sold separately on the a la carte line.

Administrative Reviews
Monitoring to ensure compliance and program integrity is an important responsibility of the State Agency. Currently, law requires State Agencies to conduct Administrative Reviews of all Local Educational Agencies that operate the National School Lunch Program at least once during a three-year review cycle. The Kansas State Department of Education has allowed full use of federal funds resulting in the Child Nutrition & Wellness team being adequately staffed to complete the required reviews in the 3-year review cycle. I would like to express appreciation to USDA FNS for adopting customer service as a strategic priority and listening to concerns from state agency directors across the country. The recent policy memo SP 12-2019: Flexibility for the Administrative Review Cycle Requirement provides guidance to State Agencies who have determined that the 3-year review cycle hinders effective allocation of State Agency resources and negatively impacts program management. USDA FNS will allow State Agencies to request waivers of the 3-year review requirement and extend the review cycle. This is another instance where a waiver is required and it would reduce State Agency burden if this could be put into regulation.

Streamlining and Need for Consistency
This same policy memo also noted that USDA FNS "strongly encourages" State Agencies to coordinate internally when they administer multiple programs to identify opportunities to streamline the review and participation requirements for Child Nutrition Programs. Specifically, USDA FNS encourages states to allow Local Educational Agencies to align Child Nutrition Program administrative activities and perform different monitoring activities concurrently, such as administering Procurement Reviews and Administrative Reviews at the same time. KSDE currently aligns the Procurement Review with the Administrative Review to decrease burden for Local Educational Agencies per request. This has taken increased State Agency resources to provide technical assistance and has increased the length of the Administrative Review for State Agencies and Local Educational Agencies.

In Kansas, we are working to streamline the review and program renewal processes. An increasing number of Local Educational Agencies who participate in the School Nutrition Programs are now also implementing the Summer Food Service Program and the Child and Adult Care Food Program. To decrease burden on the Local Educational Agency, KSDE is working to develop one application for multiple programs instead of three separate applications. Local Educational Agencies administering multiple programs have indicated they could operate more efficiently if their site review and reporting requirements could be streamlined. Burden could be reduced in administering the Summer Food Service Program in rural communities and access increased if flexibilities were available regarding congregate meal requirements.

While many of the Child Nutrition Program regulations are the same, it is challenging to streamline when there are miniscule program differences. This causes a great deal of confusion when a Local Educational Agency administers multiple programs. It would be helpful if there could be consistency between programs. Examples include:

- The Child and Adult Care Food Program meal pattern for Pre-K requires more meat/meat alternate than the meal pattern for K-5 in the National School Lunch Program.
- Milk fat and flavor requirements are not consistent between programs. In the Summer Food Service Program, there are no restrictions on fat content or flavor of milk served. Flavored milk cannot be served in the Child and Adult Care Food Program. The National School Lunch Program allows skim and low-fat flavored and unflavored milk as long as there is one unflavored option.
- The National School Lunch Program allows 2 ounce equivalent grain based desserts per week, while the Child and Adult Care Food Program does not allow any grain based desserts. For instance, granola bars cannot be served for Child and Adult Care Food Program At-Risk Afterschool Meals but students can have a granola bar as a part of the National School Lunch, Breakfast and Afterschool Snack Programs.

Resource Management
In the past, the main focus of school nutrition staff was to provide tasty and healthy meals to students. The additional regulations regarding resource management – Indirect Costs, Paid Lunch Equity, Allowable Costs, Revenue for Non-Program Foods, and Maintenance of the Non-Profit Food Service Fund – have made program administration more complex. This has resulted in early retirements and fewer applicants for vacant Food Service Director positions. KSDE is providing skill development in all areas of the Resource Management section of the Administrative Review. Even with additional instruction and resources, this area of the Administrative Review has been challenging for both State Agency and Local Educational Agency staff. Kansas Local Educational Agencies have appreciated the recent Paid Lunch Equity flexibility for those with a positive balance in the Food Service Fund as of December 2018 as provided in the 2019 Appropriations Bill and they have indicated it would be helpful to be in regulation.

Sufficient Lead Time for Policy Changes
It is essential to have sufficient lead time to work with Local Educational Agencies once regulatory guidance is received. For example, many Local Educational Agencies begin the procurement process for the next school year in the winter of the current school year. When policy memos and guidance are provided in spring or summer for the upcoming school year, it is challenging to effectively procure and secure competitive pricing. I have appreciated the recent willingness by USDA to include State Agency and Local Educational Agencies (Food Service Directors, Administrators, School Boards and Parent Teacher Organizations) in discussions to obtain input regarding policies and guidance prior to final release. Consulting with local stakeholders regarding the realities of implementation is effective.

Professional Standards
The Healthy, Hunger-Free Kids Act of 2010 required USDA to establish a program of required education and professional development for school food service directors and State directors; and required professional development for local school food service personnel. The Professional Standards are intended to ensure that school nutrition professionals who manage and operate the National School Lunch Program and School Breakfast Program have adequate knowledge and training to meet program requirements. Requiring set qualifications provides program operators with the knowledge and tools necessary to improve menu planning and service, reduce eligibility and counting errors, and enhance program integrity. On Friday, March 1, the Food and Nutrition Service published a Final Rule entitled, "Hiring Flexibility Under Professional Standards." This final rule added four flexibilities to the hiring standards for new school nutrition program directors in small Local Educational Agencies and new school nutrition program State directors under the professional standards regulations. These helpful changes are expected to expand the pool of candidates qualified to serve as leaders in the school nutrition programs while continuing to ensure that school nutrition professionals are able to perform their duties effectively and efficiently.

Conclusion
The Child Nutrition Reauthorization Act, known as the Healthy, Hunger-Free Kids Act of 2010, provided historic changes in child nutrition programs to give students healthier meal options. Implementation of this law has resulted in increased consumption of fruits and vegetables and whole grains and strengthened school wellness policies. The healthier school environments have positively impacted student success. Schools are leading culture change to instill healthy habits for a lifetime. Child Nutrition Professionals have a passion for making sure students have access to healthy, safe and tasty meals. Ensuring that these professionals can efficiently and effectively serve students these meals is critical to the programs and children's lifelong success.

Chairwoman BONAMICI. Thank you, Ms. Johnson, for your testimony. I now recognize Ms. Martin for 5 minutes for your testimony.

STATEMENT OF DONNA MARTIN, DIRECTOR OF SCHOOL NUTRITION PROGRAMS, BURKE COUNTY, GEORGIA PUBLIC SCHOOLS

Ms. MARTIN. Thank you, Chairperson Bonamici, Ranking Member Comer, Committee members, and my fellow distinguished panelists. I am honored to have the opportunity to speak before you today. My name is Donna Martin and I am the director of the School Nutrition Program for Burke County Public Schools, a small rural district in Georgia. I am also the immediate past president of the Academy of Nutrition and Dietetics, and we are committed to strong nutrition standards for school meal programs.

School nutrition programs are essentially like running a restaurant, a PR agency, and a nutrition education campaign all while operating under a tight budget with minimal time and resources. Being as school food service director is a complex, demanding profession, and I think it is the best job on earth. I will stress three important points today.

First, school meal programs can have high nutrition standards and be financially solvent. Second, school nutrition professionals need access to equipment and training resources. And, third, good nutrition for students is critical for our Nation's children to succeed. Our program serves five schools, offering breakfast in the classroom, lunch, and after school snack, and supper, the Fresh Fruit and Vegetable Program, and a Summer Feeding Program. We serve nearly 4,000 meals a day, and our lunch participation rate is 89 percent, and our breakfast participation rate is 78 percent.

We operate under the community eligibility provision which has made running my program more efficient by eliminating unnecessary administrative time, paperwork, and cost. We started moving to healthier foods in our district even before the new standards were required, and you can bet that I was nervous. You know we take our fried chicken and grits very seriously in Georgia, so we went to work and developed a health, nutritious herb-baked chicken, scratch whole grain rolls, and locally grown whole grain grits that are absolutely awesome. I brought each of you a bag, and I know you'll agree that these grits are delicious.

I am incredibly proud of our farm to school program that provides farm fresh produce to our students. We found that when we started offering local fresh produce like collards, berries, and peaches, our fruit and vegetable consumption rates doubled. From scheduling recess before lunch, to providing choices so students can select the food they like, we manage to keep our food waste low, but we would love to see children have more time to eat their meals. My own grandson tells me he doesn't have enough time to finish his food in school.

Since the last time I spoke before the committee the Smart Snacks rule has been implemented. In Burke County I have been able to find almost any product that you can image to meet the criteria. We even offer items like ice cream and cookies that meet the standards and the children love them.

We need to protect our nutrition standards from loopholes that would undermine the intent of the Smart Snack Program. I am proud of how we have meet the needs of our community. When our high school football coach came to me with concerns about his players not getting the fuel they need to be successful, we worked together to provide dinner after school while our tutoring enrichment programs were running to make sure the athletes and other students were well-nourished. Not to say it was not challenging. The supper program can be administratively burdensome since the lunch and supper programs are overseen by two different State agencies.

Like many communities around the country our rural community faced challenges in delivering summer meals to kids. Traditional feeding sites simply did not meet all of our needs. The community and district worked together to find solutions and we now run 15 summer bus routes feeding over 2,500 children daily. We also provide the food for programs in the community that are operating summer enrichment programs like vacation bible schools and the public library.

So what is the cost of running a successfull program you ask? I am not here to tell you that it is easy. Feeling the strain of labor and insurance costs myself, but I am here to tell you that it is possible to meet nutrition standards and be financially solvent. We are fiscally sound because we offer seasonal fresh produce. We work with the Burke County farmers to provide local fruits and vegetables at very competitive prices.

In fact, I have had local farmers beating down my door to set up contracts with me. In the school nutrition world we call this a win, win, win. A win for the farmer, a win for the kids, and a win for our local economy. In Burke County I am lucky to have up to date equipment and staff with nutrition expertise. While president of the Academy I have visited many school districts that did not have the same level of resources as me. The Academy created a video and held a briefing for Members of Congress to communicate the real need for modern equipment. I have provided the video link in my written comments so you can see the equipment needs for yourself.

We could do more for our students nationally if reimbursement was increased to accommodate rising food costs, and if there were supplemental funding for equipment and training needs. But we will do worse for students if we lower the bar to accommodate costs by not serving kids what they need to thrive. Thank you for listening to my story and for your commitment to our Nation's students. I respectfully ask each of you to keep children's best interests in mind if you plan to move forward with the reauthorization of child nutrition programs. Thank you once again, Chairman Bonamici, Ranking Member Comer, and all the committee members. I will be happy to respond to any questions that you may have.

[The statement of Ms. Martin follows:]

Statement for the Record
Before the House Committee on Education and Labor
Subcommittee on Civil Rights and Human Services

March 12, 2019

"Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs"

By
Donna S. Martin, EdS, RDN, LD, SNS, FAND
Director School Nutrition Program
Burke County Board of Education
Burke County, Georgia
Immediate Past President, Academy of Nutrition and Dietetics

Chairperson Bonamici, Ranking Member Comer, committee members, and my fellow distinguished panelists: I am honored to have the opportunity to speak before you today.

My name is Donna Martin and I am the Director of the School Nutrition Program for Burke County Public Schools in Georgia. I am also the immediate past president of the Academy of Nutrition and Dietetics, the world's largest organization of food and nutrition professionals. The Academy represents more than 104,000 registered dietitian nutritionists, nutrition and dietetics technicians, and advanced-degree nutritionists, and is committed to strong nutrition standards for school meal programs.

I have worked in the education setting for many years now. We give our students books, we provide them with transportation, and yet we don't guarantee that every child has a healthy, well-balanced school meal regardless of their ability to pay. Why is that?

If we want children to succeed, we need them to learn. And in order for them to learn they need to be well fed. As a school nutrition director, my job is to ensure that every child is well nourished and ready to learn.

I work in a small, rural district in Georgia, and I believe that much of our success lies in the fact that I, and others on my staff, have the nutrition and business expertise to operate a sound school nutrition program.

I first entered the school nutrition field nearly 25 years ago, after becoming a registered dietitian nutritionist and working in pediatrics. Today's school nutrition programs are not simply serving meals and counting money. We are conducting nutrition education with students, faculty and parents, planning menus that meet federal nutrition guidelines, working with computer systems to master point of sale programs, completing production records, training and supervising staff, managing a 4-million-dollar budget, writing specifications for equipment, and placing bids for food.

School nutrition programs are essentially like running a restaurant, a PR agency, and a nutrition education campaign, all while operating under a tight budget with minimal time and resources.

Being a school foodservice director today is a complex, demanding profession and I think it is the best job on earth!

I will stress three important points today: First, school meal programs can have high nutrition standards and be financially solvent. Second, school nutrition professionals need access to resources to ensure there is adequate equipment and technical assistance to operate programs. And third, good nutrition for

students is critical for our nation's children to succeed and for those who will join our military to be fit for service.

Our program in Burke County, Georgia serves five schools, offering breakfast in the classroom, grab-and-go breakfast, lunch, after school snack and supper, the fresh fruit and vegetable program and the summer feeding program. Burke County schools serve nearly 4,000 meals a day with a lunch participation rate of 89 percent and a breakfast participation rate of 78 percent. We believe that prioritizing nutrition coupled with serving food that tastes good is critical to running a school nutrition program. Not only is it best for the kids, but it is what makes our program so popular.

Our district is mostly rural and has a free and reduced rate of 100 percent. We operate under the Community Eligibility Provision, which has made running my program more efficient by eliminating unnecessary administrative time, paperwork and cost.

We started moving to healthier foods in our district even before the 2010 Healthy, Hunger-Free Kids Act standards were required and you can bet that I was nervous. But we did it gradually by introducing rolls with 25 percent whole wheat flour. If you have ever been to Georgia, you know we take our fried chicken, corn bread and grits very seriously. So, we went to work and developed a delicious baked herb chicken and featured locally grown whole grain grits that are absolutely awesome. I brought each of you a bag and I know you will agree that these grits are delicious. We even have whole grain rolls and corn bread, made from scratch – and yes, our kids love them!

I am incredibly proud of our Farm to School Program that provides farm fresh produce to our students, including delicious Georgia peaches and blueberries. The students love it and often wish they could get more than just a half cup serving. We found that when we started offering local fresh fruits and vegetables like collards, cabbage, corn on the cob, broccoli, carrots, berries, melons, peaches, our fruit and vegetable consumption rates doubled.

We also employ effective strategies to help students eat their school meals. From scheduling recess before lunch to providing choices so students can select the food they like, we manage to keep our food waste low. We would love to see children have more time to eat their meals—my own grandson tells me that he doesn't have enough time to finish his food in school.

Since the last time that I came to speak before this committee, the Smart Snack rule has been implemented. This rule requires that all foods sold at school during the school day meet the nutrition standards. The Smart Snacks in School regulation applies to foods sold a la carte (or outside of the reimbursable meal), in the school store, vending machines, and any other venues where food is sold to students. Many districts feared that they would not be able to comply with these standards and that they would lose a la carte sales, which are often essential in helping to balance a tight budget. In Burke County, I have been able to find almost any product that you can imagine to meet the criteria. We offer items like ice cream and cookies that the kids love. In conversations with my colleagues across the country, they have shared that the school nutrition industry has done a great job providing a large variety of items that meet the standards. We need to protect our nutrition standards from loopholes that would undermine the intent of the program, which is to provide a healthy food environment at school.

I do have a concern about a loophole that is currently undermining the Smart Snacks rule. I spent some time last week with directors from across the state of Georgia and I heard quite a bit of frustration around exemptions for fundraisers. Currently state agencies can set the reasonable number of days where fundraisers are exempt from following the Smart Snacks standards. In Georgia, the fundraiser exemption is applicable for 90 of my 180-day school calendar—that's half of my operating days! This varies from state to state; some states have no exemptions while others have diluted the standards by setting an unreasonable number of fundraiser exemption days. This has been problematic for some of

our school nutrition programs wanting to start Breakfast in the Classroom. They can't get the program off the ground because children are choosing popular, fast-food restaurant breakfast sandwiches being sold by a fundraiser at the front door of the school. We must revisit the exemption process so that we can maintain the integrity and intent of the Smart Snack standards.

I'm also proud of how we have met the needs of our community. When our high school football coach came to me with concerns about his players not getting the fuel they need to be successful. We worked together to provide dinner after practices to make sure that the athletes were well nourished. As a registered dietitian nutritionist, it brought me great joy to know these students weren't just filling up on empty calories, but nutritious foods that were good for them.

Not to say it wasn't challenging. Running the after school supper program can be administratively burdensome and difficult to comply with two different regulatory agencies. But we knew that students were hungry and didn't have access to food after school, so we make it work.

Like many communities around the country, when it comes to access to summer meals for kids – our rural community faced challenges in delivering meals. Burke County is 836 square miles of land but only has 22,000 residents. Traditional feeding sites simply did not meet all of the needs of our community. I worked with my district and our community to find solutions and we now run 15 bus routes and more than 100 stops throughout the county, feeding over 2,500 children daily for eight weeks during the summer. We collect book donations so that every child in our bus program gets at least one book to bring home. We also provide the food for programs in the community that are operating summer enrichment programs like vacation bible school, band camp, ROTC camp, and the public library. We are getting healthful foods to kids when they need it, and also providing employment for my staff during the summer. In communities like ours, that matters.

Now that I've shared some of the highlights of our program, you're probably wondering "what is the cost of running a successful program?"

I am feeling the strain of labor and insurance costs, but this makes it even more critical that we keep participation high by providing healthy, balanced and appealing meals to the students. I am not here today to tell you that it is easy, but I am here to tell you that it is possible to meet nutrition standards and be financially solvent.

We are a fiscally sound program because we offer fresh fruits and vegetables that are in season. We work with Burke County farmers to provide local fruits and vegetables at very competitive prices. Coupled with the long shelf life of those products, we have very little spoilage. In fact, I have had local farmers beating down my door to set up contracts with me. In the school nutrition world, we call this a win-win-win.

It's a win for the farmers because they have a guaranteed market. It's a win for kids because we serve the local produce that they want. And it is a win for our community because we are investing into the local economy and reducing our carbon foot print. We use our commodity dollars very wisely to purchase food that helps stretch our food dollars. We also do a lot of scratch cooking which helps control the food cost and reduce the sodium content of our meals.

In Burke County I am lucky to have up-to-date equipment and staff with the expertise to deliver an appealing, well-balanced meal for students. During my term as the 2017-2018 President of the Academy of Nutrition and Dietetics, I visited all parts of the country and saw first-hand the school districts, in neighborhoods of varying economic levels, that did not have the same level of resources available to them. The Academy created a video and held a briefing for members of Congress to communicate the

real need for modern equipment. I have provided the video link in my written comments, so you can see the equipment needs for yourself[1].

While these districts were meeting all the required nutrition standards, I had great empathy for the amount of effort necessary to meet the requirements. Some of these districts were working with equipment almost as old as the program itself – more than 70 years old! In one large district we visited, with more than 15 schools, there was only one functioning oven. Some of the districts didn't even have walk-in coolers and freezers, which are imperative to serve fresh or frozen fruits and vegetables. Meanwhile, in my district, I have state-of-the art equipment like combi ovens and tilting skillets in every school!

We could do more for our students nationally if reimbursement was increased to accommodate rising food costs and if there was supplemental funding for equipment and training needs. But we will do worse for students if we lower the bar to accommodate costs by not serving kids what they need to thrive.

In closing, I thank each of you for taking the time to listen to our story from Burke County schools and for your commitment to students throughout the country through supporting child nutrition programs. I respectfully ask each of you to keep children's best interests in mind as you move forward with the reauthorization of child nutrition programs that impact so many children across the country.

We demand the best of our schools and for our students in every other part of the campus – and our cafeteria should be no different.

Thank you once again Chairman Bonamici, Ranking Member Comer and all the committee members. I would be happy to respond to any questions that you may have.

[1] https://image-base.wistia.com/medias/1xfi90t90k)

Chairwoman BONAMICI. Thank you, Ms. Martin for your testimony and for the grits. And I now recognize Ms. O'Meara for 5 minutes for your testimony.

STATEMENT OF NIKKI BERLEW-O'MEARA; WILKES-BARRE, PA

Ms. BERLEW-O'MEARA. Good morning, Madam Chair Bonamici, Ranking Member Comer, and members of the Subcommittee, and my fellow panelists. My name is Nikki Berlew-O'Meara and I'm a proud member of MomsRising from Wilks Barre, Pennsylvania. Thank you for inviting me to testify today about the vital role school lunches play in my family's life and my children's nutrition.

I am the mother of a 9-year-old named James and a 6-year-old named Natalie. As a single mom, money is tight for my family. Thankfully, both of my children receive free lunch at school which is a huge help for us. The National School Lunch Program has been a crucial lifeline as I strive to give my children the strong, healthy start they deserve. One of my top priorities is giving my kids balanced diets to help grow their minds and bodies. The National School Lunch Program's nutrition standards are a huge help.

When I drop my kids off at school each morning I know they will get a healthy lunch with the vegetables, fruit, whole grains, and lean proteins that are essential for their health. The lunch they get at school every day is healthier and more substantial than the lunch I would be able to pack for them. And because enough students in my children's district qualify for free lunch, everyone at their school gets them, meaning no children have to feel singled out.

The National School Lunch Program benefits my children's nutrition outside of school too. Because I am not paying for lunch every day I have a little more money to spend on their dinners. Every penny counts in our household. It means I can afford healthier options like fresh produce, as well as introduce them to new foods. I am always trying to get my kids to try new things, which any parent will tell you can be difficult, doubly so for kids on the autism spectrum like my son. The National School Lunch Program gives me the buffer I need to do so.

As a result, my children eat better and more diverse food, both at school and at home. They love turkey tacos and chuck roast with potatoes at home, and at school they like to eat chicken sandwiches, meatloaf, and mandarin oranges. I have been trying for years to get my daughter to try salad and she finally tried it at school with her friends. It is good, mom, she tells me. We all know sometimes kids listen to their friends first before they listen to their parents.

If we did not have the National School Lunch Program my kids' meals would be simpler and less nutritious. We also would not be able to afford the occasional discounted movie night, or even going out to eat for their birthdays which create precious memories for my family. I know what it is like to have to cut costs like that. We have endured more difficult periods where we had to cut these expenses are more.

After my divorce things were really tough. The three of used SNAP benefits for a while, and I was wearing just two hoodies at

home when the kids were with their father, setting the heat at 55 degrees to save on utilities. During these periods the National School Lunch Program was even more crucial for us. Simply put, without it my kids would have eaten much less at that time in our lives, and they would have eaten more meals like pasta and white rice which keep their bellies full, but do not provide the adequate nutrition they need to grow.

The National School Lunch Program provides essential support for my children's education as well. It is so important to me that they get the best education possible so that they can reach their potential and pursue their dreams, and these programs are a huge part of that. If my kids did not get the food and nutrition they need they would be much more distracted at school. They would not be thinking about upcoming vocabulary tests or science projects, but instead they would be thinking about and wishing for their next meal. Simply put, kids cannot learn if they are not getting proper nutrition.

Because my children get well-balanced meals at school they can focus on what matters most, feeding their minds and broadening their horizons by working hard in their classes. My son has always dreamed of being a teacher, and my daughter wants to be both a pediatrician and a veterinarian. They need the proper nutritious to realize all of their dreams.

As the committee discusses the reauthorization of child nutrition programs I hope you remember James, Natalie, and other families like mine. The decisions this committee makes will have a significant impact on working families and whether we will be able to set our children up for future success. Child nutrition programs need to continue to be well-funded, supported, and improved, not only for my kids but for the other children at their school who have fallen on much tougher times. My kids deserve healthy food and all kids deserve healthy food regardless of how much money their parents make. These programs are a crucial part of ensuring their very basic needs are met. Thank you for remembering the importance of healthy food for our Nation's next generation of children.

[The statement of Ms. Berlew-O'Meara follows:]

Testimony of Nikki Berlew O'Meara

House Subcommittee on Civil Rights and Human Services Hearing
March 12, 2019

Good morning Chairman Bonamici, Ranking Member Comer, and members of the Subcommittee. My name is Nikki Berlew O'Meara, and I am a proud member of MomsRising from Wilkes-Barre, Pennsylvania. Thank you for inviting me to testify today about the vital role school lunches play in my family's life and my children's nutrition.

I am the mother of a nine-year-old named James and a six-year-old named Natalie. As a single mom, money is always tight for my family. Thankfully, both my children receive free lunch at school, which is a huge help for us. The National School Lunch program has been a crucial lifeline as I strive to give my children the strong, healthy start they deserve.

One of my top priorities is giving my kids balanced diets, to help grow their minds and bodies. The National School Lunch Program's nutrition standards are a huge help. When I drop my kids off at school each morning, I know they will get a healthy lunch with the vegetables, fruit, whole grains and lean proteins that are essential for their health. The lunch they get at school is healthier and more substantial than the lunch I would be able to pack for them. And because enough students in my children's district qualify for free lunch, everyone at their school gets them - meaning my children don't have to feel singled out.

The National School Lunch Program benefits my children's nutrition outside of school, too. Because I'm not paying for lunch every day, I have more money to spend on their dinners. Money is tight in our household, so every penny counts. It means I can afford healthier options like fresh produce, as well as introduce them to new foods. I'm always trying to get my kids to try new things – which any parent will tell you is not easy! – and the National School Lunch Program gives me the buffer I need to do so. As a result, my children eat better and more diverse food, both at school and throughout the day. They love turkey tacos and chuck roast with potatoes at home and at school they like to eat chicken sandwiches, meatloaf, and mandarin oranges. I've been trying for years to get my daughter to try salad and she finally tried it at school with her friends!

If we did not have the National School Lunch Program, my kids' meals would be simpler and less nutritious. We also wouldn't be able to afford the occasional discounted movie night or even going out to eat for birthdays, which create

precious memories for my family. I know what it's like to have to cut costs like that; we have endured difficult periods where we had to cut those expenses and more. After my divorce, things were really tough. We used SNAP benefits for awhile, and I was wearing two hoodies at home when the kids were out, to save on utilities. During those periods, the National School Lunch program was even more crucial for us. Simply put, without it, my kids would have eaten much less. And they would have eaten more meals like pasta and white rice, which keep their bellies full but don't provide the nutrition they need to grow.

The National School Lunch Program provides essential support for my children's education, as well. It is so important to me that they get the best education possible, so they can reach their potential and pursue their dreams, and these programs are a huge part of that. If my kids did not get the food and nutrition they need, they would be much more distracted at school. They would not be thinking about upcoming vocabulary tests or science projects, but instead they would be thinking about – and wishing for – their next meal. Simply put, kids can't learn if they're not getting proper nutrition. Because my children get well-balanced meals at school, they can focus on what matters most: feeding their minds and broadening their horizons by working hard in their classes.

As the committee discusses the reauthorization of child nutrition programs, I hope you will remember James, Natalie, and other families like mine. The decisions this committee makes will have a significant impact on working families and whether we will be able to set our children up for success. Child nutrition programs needs to continue to be well-funded, supported, and improved, not only for my kids, but for the other children at their school who have fallen on much tougher times.

My kids deserve healthy food, and all kids deserve healthy food -- regardless of how much money their parents make. These programs are a crucial part of ensuring their basic needs are met. Thank you for remembering the importance of healthy food for our nation's next generation.

Chairwoman BONAMICI. Thank you so much for your testimony. Under Committee Rule 8A we will now question witnesses under the 5-minute rule. As chair, I will recognize myself first, followed by the ranking member of the full committee, and then we will alternate between the parties. I now recognize myself for 5 minutes.

Ms. Berlew-O'Meara, thank you for sharing your story. I know from working at Legal Aid that families do not struggle by choice, and children should not suffer because families are struggling. In your testimony you state that because enough students in the district qualify for free lunch everyone at school gets them, meaning your children do not feel singled out. This describes a provision added in the Health Hunger-Free Kids Act of 2010 known as community eligibility. Why is that important to you and your children?

Ms. BERLEW-O'MEARA. It is important to me and definitely to my children as well because I do not want them to feel singled out. I do not want any child to feel singled out because kids talk, and they may find out, oh, this child gets a free lunch. This kid's parents cannot afford to pay for it. They have enough to worry about. We don't—I just do not feel we need to have them be worried about what their parents make and do they qualify for these things.

I know just from my own experiences at school and from my mother's experience at school that can be really difficult for children to deal with, and they have already got enough on their plate. We do not need to be adding more.

Chairwoman BONAMICI. Thank you. And I am going to followup with Dr. Ochoa about this issue too. We heard, Dr. Ochoa, we heard a little bit about school meal participation rates, and I want to highlight a study conducted by the University of Washington's School of Public Health, itound that new standards put in place after Healthy Hungry Free Kids Act increased access to whole grains, vegetables and fruits, they found that while the nutritional qualify of school meals improved after new requirements went into effect, the standards did not affect school lunch participation. So we know that there are many complicated factors that impact participation rates, and it is important to examine the entire picture.

And I have to say I am pretty alarmed by the President's budget proposal to cut 1.7 billion dollars from child nutrition programs. A cut of that magnitude will certainly affect participation rates and result in fewer children accessing meals. Can you comment on how changes to community eligibility might impact participation?

Dr. OCHOA. Yes. I would think that community eligibility is important not just to keep more kids fed and keep them out of food insecurity, but also to prevent healthcare costs in the long run. Children's Health Watch has done research showing that the longer that food insecurity persists there are chronic health issues that are worse and developmental issues that are higher in kids that are food insecure than those that are not.

My colleagues at Children's Health Watch, Drs. John Cook and Anna Poblacion created an economic simulation model where they showed that CEP alone moved about three quarters of a million people from food insecurity to food security. And so we know that if food insecurity costs our Nation nearly $178 billion a year it

would make sense to invest in that as a preventive measure to prevent health care costs in the future.

Chairwoman BONAMICI. Thank you. I am going to move to another question, but thank you so much for that. Ms. Martin, in Oregon there are more than 800 summer food service sites. Thank you for talking about the Summer Meals Program. I visited one that serves 30,000 summer meals, but even with that number the district knew they were not reaching all the families in need, and that kids were going hungry over the summer.

There has been a pilot program in Oregon that has been very effective helping to bridge the gap. Can you describe some of the challenges your community faces in rural areas and serving summer meals, and what more can we do to make sure that students do not go hungry during the summer months?

Ms. MARTIN. Well, thank you for that question. I think food security in my district is a huge issue and we find out that when kids come back from just the weekends or a holiday they are racing into the cafeteria to eat breakfast or eat lunch. They are so hungry. We had teachers who were putting kids into summer school not because they needed to go to summer school, but to make sure they had healthy meals over the summer. So because we have a large rural community we had a need, and we did not have any way of reaching the kids. They did not have transportation to come to our schools or come to our site so we came up with the idea of doing these school busses.

So the school busses go out all over the community. They stop at about 105 different stops. The kids get on the bus. They eat the healthy meal. They finish their meal and they love the fact that their bus is air conditioned because a lot of our kids do not even have air conditioning in the summer. So they get on the busses. We provide some books for them on the bus so that they have an opportunity to read on the bus. They get off the bus and they go home.

Chairwoman BONAMICI. That is a great model. I want to try to get one more question in. Dr. Ochoa, how do strategies like the Summer EBT Program work in concert with the Summer Food Service Program to improve access to nutritious meals?

Dr. OCHOA. It does work very well to improve access, and I think the point that Donna was making is a good one. We know that only one in seven kids that participate in school lunch during the year participate during the summer. So we know that anything that can increase access over the summer is good because there are nearly 17 million kids who are eating free and reduced lunch at school during the school year that do not get it during the summer.

Chairwoman BONAMICI. Thank you. And thank you for also recognizing that this is a health care issue, and that it is a good investment and we are actually preventing more expenses in addressing health care later, so appreciate that long term approach. And I now recognize the Ranking Member of the full committee, Dr. Foxx for her questions.

Mrs. FOXX. Thank you, Ms. Bonamici, and I want to thank the witnesses for being here today and presenting their testimony. Ms. Johnson, every time I am in a school, and I am in the schools a lot, I am always careful to go by the cafeteria and say thank you

to the food nutrition people because I know they struggle to keep up with the rules and regulations, and provide those good meals to the students every day. So please convey to them my thanks. I do that myself personally when I can.

I want to thank you for helping us get a better idea of what all the requirements and rules mean for people doing the real work. While some of the paperwork is necessary for compliance and accountability I think you implied there is too much paperwork, but if you would talk a little bit more about that? And could you share some examples of paperwork that makes the program overly burdensome?

Ms. JOHNSON. Yes, I would be happy to do that because our focus is on feeding kids, and there are somethings that I think could be reduced paperwork wise and still maintain integrity. Things like waiver. Having waivers takes a lot of time for us to write waiver applications, approve waivers, and then we have to collect data on waivers, and then we write reports on waivers.

CEP reporting, community eligibility is a great program, but there is a reporting requirement for schools even below the 40 percent ISP threshold that could never apply. They still have to do notification reporting. That could ease some burden. The site monitoring. When multiple child nutrition programs are being administered, like at our Wichita school district. They have hundreds of monitoring reviews that they have to complete because they run every single program that we have in many, many sites.

Summer reporting data is extensive. I know it is helpful, but it quite a chore for the State agency. Illuminating those nuances between the child nutrition programs. There is this little thing, about 80 percent of regulations are the same for all programs. There is this 20 percent difference that makes it so difficult for a director of multiple programs. They want to be in compliance. They want to do the right thing, but just to streamline that would be so helpful.

And then we do have a paid lunch equity tool that also can cause some burden. The flexibility that was recently enacted for school districts in a positive financial status is extremely helpful in Kansas, and I do appreciate that. So there are a few examples.

Mrs. FOXX. Thank you. You also mentioned that USDA seems to be more customer friendly and really listen to you and your colleagues. Can you tell us a little bit more about what you mean and discuss why that mindset's important for the success of the programs?

Ms. JOHNSON. Absolutely. USDA has been taking a very customer service stance in the last few years, especially. They are listening. They have put together a committee of State agency directors who are giving input on how paperwork can be reduced. Extremely helpful.

They are more accessible at conferences. I was just at the Legislative Action Committee. They met with State directors for 2 hours, and they allowed us to ask questions and listened. They have had work groups prior to final rules being enacted for the Child and Adult Care Food Program, also professional standards done and I work both on that group. When they listen I do think it helps with implementation. When they hear from the stakeholders, not just

school food service directors and State agency, but also parents and administrators, school boards, all those folks that have an interest. So there have been a lot of examples recently and I applaud them for that.

Mrs. FOXX. Well, thank you very much and I hope it is not just listening, but taking action, particularly on those minor little differences that occur. It seems to me that you all would be able to convince them to make those modifications so that you can devote more of your time to serving the children.

Ms. JOHNSON. I do think they are listening and I think there are, just like with the Summer Food Service Program, waivers. They know how important it was to get those approved prior to summer starting. In Kansas we had ours in first and we got those back quickly. We did not have to change our computer systems and then change them back. I do feel like they are being very responsive and listening and helping.

Mrs. FOXX. Thank you, Madam Chairman. I yield back.

Chairwoman BONAMICI. Thank you, Dr. Foxx. I now call on Dr. Schrier from Washington for 5 minutes for your questions.

Ms. SCHRIER. Thank you, Madam Chairwoman, and thank you to all of our witnesses. I am thrilled to have you all here. First of all, Ms. O'Meara, I want to tell you that veterinary medicine and pediatrics, in many ways, are very similar that in that first year our patients cannot talk to us. I am sure Dr. Ochoa will appreciate that.

Also, nutrition is one of the big topics that comes up at every well child check, and so I am super grateful for this whole discussion and grateful for the food insecurity questions that I also ask. And one thing I just wanted to mention because I look at these school nutrition programs as having three big goals, and forgive me if I am leaving one out. But one is simply addressing food insecurity and hunger. The other is helping kids do better in school and have better behavior which I do not even think we talked about, but that has been proven too.

But the third is really setting them up for a lifetime of success and health. And a lot of the conversations that I have with patients or with the parents involve how to make kids like food. And my typical answer to that is just make food that tastes good and there should not be kid meals and adult meals, like, feed them curry, feed them Thai food. Give them whatever tastes good, and that usually works.

So I wanted to applaud you, Ms. Martin, for your work in making sure food tastes good and wanted to talk to you about really having a focus on that because if we can make spinach taste good for kids then that means when they are adults and they go do their shopping they will buy spinach and know how to make it. So could you talk a little bit about that, maybe even if any school districts are experimenting with having chefs? And even, I was just at a school the other day, I am using up all my time.

I was in a school the other day where they have a school garden, but they are not allowed to eat the food from the garden.

Ms. MARTIN. Yes.

Ms. SCHRIER. And so could you talk about that a little bit?

Ms. MARTIN. No, absolutely. So we have three things that we say in school nutrition. We say if the kids taste it they will eat it, so you have got to do a lot of taste testing. So when our kids come through the line, and we have hummus on the line. They are like what the heck is that, but if you do a taste test with it they like it and they eat it, so taste testing is really key.

If they grow it they will eat it. So we have tower gardens and we have outside gardens, and our kids plant the seeds, they grow the food, and they do get to eat it in the classroom. We just cannot serve it school-wide, so if they grow it they will eat it. And if they cook it they will eat it. So we have this Charlie Cart where we do all these cooking classes. So we take what they have grown and turn it into a cooking class, and we get kids to eat brussel sprouts and asparagus and all these things that nobody thinks they will eat, but they have cooked it.

And I had a middle school student the other day in the cooking class said, this was the best day of my life. I could have died. A middle school student, really? So it is all about getting them involved. So you have got to, you know, talk to them about what they want, and you also have to do nutrition education. That is what we are not doing enough of. And so my very favorite program for that is the Fresh Fruit and Vegetable Grant Program where right now we offer 65 different fruits and vegetables fresh every day, not at breakfast, not at lunch, but in the afternoon. And our kids run in off the bus, come into the lunchroom to see the Lucite placard to find out whether it's blood oranges or jicama or mushrooms or red bell peppers or whatever, what they are getting for the snack that afternoon.

And they go home and their parents call me and they say, what is that star shaped fruit you served today? And I said starfruit, and then the grocery stars call me and say, would you please let me know what you are serving because the kids are running in here asking for it and we do not have it. So that program needs to be expanded, and it also teaches the parents about nutrition. So nutrition education and remember those, taste it, cook it, and I cannot remember the third one, but anyway.

Ms. SCHRIER. Prepare it.

Ms. MARTIN. You got it. Thank you.

Ms. SCHRIER. Yes, preparing it together. And by the way, preparing it together is a great way to connect—

Ms. MARTIN. Preparing it, right.

Ms. SCHRIER [continuing]. with teenagers who will not talk to you otherwise. So thank you for that perspective, and, also, cutting up fruits and vegetables increase consumption for people.

Ms. MARTIN. Oh my gosh. And the other thing is time to eat, and people do not really focus on that enough, and they look at the trash cans and they say, oh, they threw all this food away. It is because they do not have enough time to eat, and so if we do not give them enough time to eat. Salads take a lot longer to eat than a piece of pizza, and, also, the kids need to go to recess before lunch because if you put recess between a meal and a kid, recess is going to win every single time. So they go to recess. They are hungry. They are thirsty and they eat better.

Ms. SCHRIER. Thank you very much, appreciate it. I only have 10 seconds left, maybe next time or at some point we could talk about milk, 20 calorie difference between 2 percent and whole. Why is whole milk getting such a bad rap? But you do not have time to answer so we will talk later.

Chairwoman BONAMICI. Thank you, Dr. Schrier. I now recognize Ranking Member Comer from Kentucky for 5 minutes.

Mr. COMER. Thank you, Madam Chairman. Ms. Johnson, I know most of the food service directors in the First congressional District. I worked with a lot of them, as I said in my opening statement, when I was Commissioner of Agriculture, and they want to serve healthy, tasty food to their students. They are very passionate about it and do a very good job, but many complain about the excessive regulatory environment, especially the changes that were made during the Obama Administration. Do you believe the new regulations on grains, sodium, and milk help more programs find this balance in their offerings?

Ms. JOHNSON. I believe that the final rule with the flexibilities really are just small tweaks and I do not think they undermine the intent of the nutrition standards. I do feel that more time is needed by industry to develop products lower in sodium so they are tasty and so students will eat them, so I really appreciate that flexibility.

The milk flavoring I think it is nice to have that additional choice, although I will be honest, in Kansas, the students do consume the skim chocolate and flavored skim fine. That does not seem to be a problem. I did not have any waiver requests for that when it was a possibility, thankfully. It was one thing. But we did get a lot of whole grain rich waivers because we have communities in western Kansas in those small rural communities who actually make homemade noodles still, and you cannot do that with whole grain flour. And we have a lot of folks of different cultures. Whole grain tortillas are not accepted well by some of the students, so some of them had waivers in for just a plain tortilla.

We had some waivers for pasta because whole grain pasta is still not holding well on the serving line. It gets mushy and students do not eat mushy, brown macaroni and cheese. I mean, I think that as there is more product development happening and pasta, whole grain pasta maybe gets to the point that it will stand up better. Maybe that will be a good choice. And some schools, if they do not have to transport foods long distance, I mean, I think it could work for them, but having this flexibility is helpful to our rural, small school districts, especially.

Mr. COMER. Ms. Johnson, as we begin the work on the reauthorization of the child nutrition programs can you recommend a few principles for us to keep in mind to guide our work as we move forward?

Ms. JOHNSON. Yes. Stay the course. I do not think that our food service directors and our school food authorities and our Child and Adult Care Food Program sponsors and summer sponsors, any of them, need the additional chaos of change. They are just now starting to feel comfortable and having good understanding of those multitude of regulations with the Health Hunger-Free Kids Act. They are now being able to start innovative breakfast methods. They are now working on farm to plate. They are able to expand

and try to reach more children in rural communities in the summer because they are feeling like, oh, we are understanding this and we can do it. So please think about that.

Also, reducing the differences between the child nutrition programs so that operators of multiple programs can operate them with integrity, and helping them increase access, but yet, decreasing their paperwork burden. I truly believe you can do that and still operate programs of integrity. And stability, by reauthorizing our programs our child nutrition program operators they know what the future holds.

It is really difficult to operate on waivers. Say, for instance, for me as a State agency the new 5 year waiver. I do not want to reinvent my staff and do all of that when I am actually doing fine with resources when I do not even know if it would last more than a year. It affects people and that is really difficult. So stability is extremely important.

Mr. COMER. Well, thank you very much and I yield back.

Chairwoman BONAMICI. Thank you, Mr. Comer. I now recognize Representative Hayes from Connecticut for 5 minutes for your questions.

Ms. HAYES. Thank you, Madam Chair, and thank you to all of the witnesses who are here today. I am so happy that we are holding this hearing because this is a challenge that I have dealt with at the local level, at the State level, and now, I guess, at the Federal level. I come from a district. I was a educator in Waterbury Public Schools for almost 15 years and this is something that is very personal for me. My district had more than 70 percent of the students who were eligible for free or reduced lunch so we participated in the community eligibility provision. One of only 13 districts in my State who did that, so I know what it means. I know what that looks like in the school setting. I know what it means for children and families.

I guess my question would be to Ms. Martin. What would you—I mean, we constantly see this provision under attack. It was in the last budget there were proposed cuts. We saw in the draft of this budget $1.7 billion in proposed cuts to food security nutrition programs, and I can imagine that the community eligibly provision would fall under this. What would you propose to districts who are not taking advantage? We have over 160 districts and only 13 of them use the community eligibility provision.

Ms. MARTIN. Well, it is very confusing to me that we offer free busing, free books, free computers, free teaching, but school lunch is not free to all our students. Why is that any different than the rest of the school day? One of my biggest jobs as school nutrition director is to provide students to the teachers ready to learn. So I have got to make sure they have breakfast, and I have got to make sure they have lunch.

And I have watched what the kids bring in their lunch box, and I almost think those are the kids that need to be shamed. We have this fabulous school nutrition program and we have got, you know, a lot of people think it is just for the free kids and it is just for the reduced kids, so what she said is so true. When it is community eligibility it is for all the kids, and we have got to reduce our bur-

dens on our future healthcare costs with obesity and diabetes, and heart disease and all these things.

And I think if we do not get these kids and these future generations to start eating better we are never going to get there. So the administrative burden for the teachers, the teachers have the hardest job in the school. I would last 10 minutes as a teacher. But they love community eligibility because they do not have to collect applications. They do not have to decide whether the kid is paid, free, reduced, or has lunch money. They do not have to worry about the kid that did not bring their lunch money and take money out of their pocket to pay for the kids. They do not have to worry about lunch boxes being stolen or lunches being stolen.

So we have the opportunity to make a huge difference in these children's lives, and they take it home and make a difference in their families' lives. So I say we just need to make sure that all programs have the opportunity to do CEP do not go back. It is such a profound impact in my district and every other district that does it.

Ms. HAYES. I mean, so once again, I know what I bring to this conversation. I was the teacher who had a closet who kids came to my room in the morning or I emptied out my own lunch or—

Ms. MARTIN. Right.

Ms. HAYES [continuing]. my own wallet—

Ms. MARTIN. Right.

Ms. HAYES [continuing]. to give them money to go buy a snack in the morning.

Ms. MARTIN. Right.

Ms. HAYES. This is before we moved to this community eligibility provision. Is there anything, because I only know what I bring, on the flip side, is there any benefit to cutting this provision in the communities where we have, like mine, 70 percent of our students already receive free or reduced lunch? I know what it meant to try to collect these forms where a kid was not eligible for $5.

Ms. MARTIN. Right.

Ms. HAYES. Not even a huge span.

Ms. MARTIN. Right.

Ms. HAYES. You were $1 over the eligibility and it made all of the difference. Is there any benefit that I am just not seeing to cutting this provision?

Ms. MARTIN. Zip. Zero. Zilch benefit of cutting this program. It would do more harm. And my teachers in the school would be devastated, and to get the teachers in support of a program is huge. So, no, there is absolutely no advantage and our kids deserve healthy meals. And we are a nutrition program, not just a feeding program.

Ms. HAYES. I guess, Ms. Johnson, you talked about in your statement about planning for next year and some of the challenges with planning that budgetary insecurity means for you and the communities that you serve. How would that impact the way you plan for the future of your district or the communities that you serve, not knowing what is in the budget?

Ms. JOHNSON. OK. So you mean if community eligibility was—

Ms. HAYES. Yes.

Ms. JOHNSON [continuing]. rolled back? Well, we are dealing with that right now in the Kansas City, Kansas school district they are coming up to the last year that they can go ahead and have the program. Their identified student percentages have decreased in that school district, and so they are not going to be able to offer community eligibility or they are trying to figure out a way, but they just really are not going to be able to do it financially. And so there is a lot of work that is going to have to be done in educating—

Ms. HAYES. So without the community eligibility the food program goes away?

Ms. JOHNSON. The food program will not go away, but it will, again, be based upon their free, reduced eligibility status. And so now we are educating parents about what that means. So, again, that stability is important and the changes, it really is an issue that we have to deal with at the State and local level.

Ms. HAYES. Thank you. I yield back.

Chairwoman BONAMICI. Thank you. I now recognize Representative Thompson from Pennsylvania for 5 minutes for your questions.

Mr. THOMPSON. Chairwoman, thank you so much. Thank you for hosting this very important hearing too. Thanks for all the witnesses here providing your testimony. I have found it all very helpful. Nutrition is important to me. Last term I was the chairman of the nutrition subcommittee on our agriculture committee, and I am a former, or as I like to say it, a recovering school board member. And I know that, you know, from all different perspectives. You know, my family, my wife and I when we were first pregnant with our first child we were in the WIC program and we were eligible for that and we needed it. It was important.

And I just want to speak to the whole issue of kids standing out. There is no excuse for that today with EBT cards. School districts are failing and In fact, the legislation we put forward to reform the current law, and it did not, unfortunately, did not go anywhere a few years ago we addressed that because there are technologies today that whether you are paying yourself or free or reduced that there are ways to do that and school districts should be doing that in a way that, you know, we do not allow kids to stand out and to be discriminated against. There is no excuse for that when schools do that today.

Also, I understand the challenges of administering a school nutrition program. I mean, I think it is the only part of our school budgets where we expect you to cover all your own costs, and yet, we hold you to these high standards dictated from Washington, not all bad, but it is just it does not work, frequently does not work. And quite frankly, I believe that hunger is preventable.

And so we need a significant review and changes to the Health Hunger-Free Kids Act that was passed in 2010. I was here for that. That review is long overdue. Some of the lessons we have learned from it, quite frankly, I don't care how you set the nutritional standards. If the food is not eaten it is not nutritional, period. Caloric intake, portion size varies by kids. Sixty pound girls and 200 pound linebackers and there is a difference there, so the cookie cutter approach with Washington standards have failed a lot of kids.

We have, you know, standards that deny science can have devastating consequences. We have seen that on milk. Empowering our school-level nutrition professionals with flexibility will, I believe, best meet the children's nutritional needs. You know, one of those unintended consequences from the 2010 standards was the impact on milk consumption, and I am glad to hear observations that some of you some of you—have not seen a decrease in consumption, but let me share you what has happened Nation-wide.

You know, milk, as we know, is the No. 1 source of nine essential nutrients in young Americans' lives, and provides more health benefits, including better bone health, lower blood pressure, reduced risk of cardiovascular disease, reduced type 2 diabetes, and now we know that milk fat in whole milk, in particular, can help to reduce obesity. I actually believe since 2010 with what did out of this Committee, we decreased milk consumption to the point—and it is always going to get replaced with something, but today, most of it is replaced with empty calories, really contributing toward greater childhood obesity. So that is why it is really important that we have this conversation and we look at these standards, and that we let science guide us and make sure that it is good science.

Milk is a source of three out of the four under consumed nutrients: calcium, potassium, and vitamin D. And no other berries naturally comes closer to this level of nutritional value. But since from 2014 to 2016 schools served 213 million fewer half pints of milk, you know, despite the fact that the public enrollment was growing. Now, I actually think they counted some of the half pints that were taken that we force our kids on free and reduced to take, but after their first milk experience with non-fat milk, and that is great that some kids might like that, but quite frankly, it is chalk water, as a milk drinker, and non-fat chocolate is just disgusting. Some of those things that got counted as consumed did wind up in the garbage can, based on a bad milk experience.

We know that children over 4 years or older not meeting the recommended daily servings of dairy in the dietary guidelines. And I have three articles just I want to submit, ask unanimous consent to submit for the record. These are studies from TUFT, from Harvard, and one from McMaster University dealing with that.

Chairwoman BONAMICI. Without objection.

Mr. THOMPSON. Actually, I apologize. I acted like I was in the Senate. I filibustered on this. I did not even get around to asking my question on it, but my point is that I am glad we are looking at this. Madam Chair, I really appreciate your leadership on this, and we need to let science guide us because hunger is preventable, nutrition matters, and I think we can do a better job opening up these standards and updating them.

Chairwoman BONAMICI. Thank you for your questions. I now recognize Representative Lee from Nevada for 5 minutes for your questions.

Ms. LEE. Thank you, Madam Chairwoman, and thank you all for coming here. You know, with a significant amount of our Nation's kids participating in the school lunch and school breakfast program, I represent Clark County, Nevada, the fifth largest school district. Over 68 percent of the students qualify for free and reduced lunch, so I certainly appreciate, first of all, how important

it is that the calories that our children consume pack as much nutritional punch as possible, but also understand I met with many food service employees this week how incredibly complicated the process is, especially on a limited budget. And not only that, especially with respect to the breakfast program where it is done, at least in Clark County, in the classroom, making it as convenient as possible.

But currently our standards right now do not address sugar content in school breakfast and do not require a protein. And when you look at the various breakfast meals that are served to children it is not uncommon to find breakfast that can deliver between 40 and 50 grams of sugar in one sitting which translates to ten to 12 teaspoons of sugar, far greater than the two to three teaspoons that is recommended for children by the American Heart Association.

So, Dr. Ochoa, I wanted to ask you, can you speak to the importance of limiting added sugar within the diets of our Nation's young children, and how increased sugar intake is linked to serious health issues during subsequent development?

Dr. OCHOA. Yes, absolutely. Our Academy of Pediatrics recommends, going back to the milk issue and talking about sugar, that low fat or non-fat unflavored milk is really the way to go because it removes two things, sugar and saturated fat, that we know are leading risk factors for a whole host of adult problems like obesity, cardiovascular disease, stroke, high cholesterol and things like that. So, the sugar content in food that is served at school is certainly a contributor to excess calories that kids do not need.

We talk about the first 1,000 days of life and the scaffolding effect that the nervous system goes through to develop to get a child from zero to three ready to go to school. I like to think of the different meals that we provide at different ages through these programs that we are talking about as a scaffolding as well that we have to adjust both the nutrient and caloric makeup of those meals to have kids get the right things at the right time so they can thrive through school, not just for grade-level reading, decreased behavior problems like Ms. Schrier mentioned earlier, but just overall better performance in school. And I think taking the sugar, the excess sugar out where we can is very important.

Ms. LEE. Yes. Thank you. I was going to ask about, obviously, the rollback, the regulatory actions on the rollback which now allow for flavored milk, low-fat milk instead of milk which, in some cases, can add another 18 grams of unnecessary sugar to a child's diet. Dr. Ochoa, in line with what you mentioned in your testimony about ensuring the benefits of consistent access to nutritious meals for children, do you have any recommendations for this legislative body on how we can do a better job of regulating sugar intake within these nutrition programs, again, also recognizing the complexity that Ms. Johnson and Ms. Martin have in actually implementing this as well?

Dr. OCHOA. Yes. Well, I will agree with Mr. Thompson that science is very important, and so the prevailing science that is out there to undergird what we serve our children in these various programs that we are talking about is very important. The science that is developed is from the National Academies, and as somebody who has served on a National Academy review before I can tell you

that the makeup of those committees is done very carefully, and the input that those committees get is very wide and deep.

Our committee went to places like Arkansas, Louisiana, Chicago to get input from the community on adolescent care, and so I know that the science that is coming out of the National Academies, just like the guidance that came out last week on sodium and potassium is really rooted in the prevailing science of the times. So, I think, if anything, the committee should look at the science that comes out of bodies like the National Academies in addressing the composition of what we feed kids.

Ms. LEE. Thank you. I agree. I think that definitely it is crucial that our nutrition standards are aligned with science and research, so thank you very much.

Dr. OCHOA. You are welcome.

Ms. LEE. Thank you all for your testimony. I yield.

Chairwoman BONAMICI. Thank you, Representative Lee. I now recognize Representative Johnson from South Dakota for 5 minutes for your questions.

Mr. JOHNSON of South Dakota. Thank you, Madam Chairman, and I would just note to the panelists that, I mean, I grew up in a family that was of modest means, and certainly there were times when we availed ourselves of the free and reduced school lunch program, so thank you to the efforts that a number of you have made in making sure that we have got programs that do a good job of delivering those nutritional benefits to families like mine.

Both the gentleman from Pennsylvania, as well as the honorable doctor from Washington started to ask about whole milk, but ran a little short on time, so I'll lend my voice to theirs. Mrs. Johnson, can whole milk be part of a nutritional toolbox at the school level?

Ms. JOHNSON. Whole milk is allowed in the Child and Adult Care Food Program up to 2 years where the science supports that. Again, our program regulations are based on the current science, and so that we follow what the science standards regulate. So I do not know that I can tell you personally what I feel as a State agency representative, but I can tell you we do allow whole milk up to 2 years of age.

Mr. JOHNSON of South Dakota. So I know there has been some studies and the gentleman from Pennsylvania referred to them that whole milk, when used properly, can be a part of driving down childhood obesity. Is that literature maybe just not mature enough yet? And if you prefer I ask Dr. Ochoa I certainly can.

Ms. JOHNSON. I think that would be a good question for the Dr.—

Mr. JOHNSON of South Dakota. Yes. All right, Doc, I mean, is this just not a mature level of literature yet?

Dr. OCHOA. I think that is one way to talk about it. I am not aware of the literature that shows a direct connection between whole milk and obesity prevention.

Mr. JOHNSON of South Dakota. OK. Very good. Thank you. And then maybe back to you, Ms. Johnson. We have talked a little bit about flexibility and how that can help with these nutritional programs, but what about in rural areas are there any unique challenges that rural areas, rural school districts face where flexibility is helpful?

Ms. JOHNSON. Yes, and I was not able in my time limit to talk about the professional standards of rural. The flexibility we just received a couple weeks ago now. But I was on the same committee as Donna when the professional standards went into place and I kept saying, I was one of the few folks from a rural area and I kept saying, yes, but how about western Kansas or South Dakota or North Dakota.

We need strong, talented people to run our programs, well-educated, but reality is in some of the small districts that you cannot find people who are able to provide the leadership as a school nutrition director that have 3 years of school food service experience. So the recent flexibility really does help those rural areas.

We go in and we train and we encourage them to take a lot of professional development classes. We encourage them to go ahead and further their education when possible, but just to have someone able to be out there feeding kids is really important in rural areas. So I appreciate that flexibility very much.

Mr. JOHNSON of South Dakota. Excellent. And then maybe for Ms. Johnson and Ms. Martin, we have talked about how, you know, 2 million fewer, I think it is 2 million fewer school children are taking school lunches in recent years. I think there has been some supposition that is directly linked to these more stringent nutritional standards. Is that a fair assumption? Maybe Ms. Martin first.

Ms. MARTIN. I disagree with that assumption. I think that, you know, in our district we really worked hard to get the kids ready for the standards, and I think a lot of school districts did not think that they were going to come about, and so they just kind of threw it on the kids. Changes should be gradual, like with milk, what we did with milk was we went from whole to low fat to 1 percent to skim, and we made sure with our milk that we have cold milk. We use plastic bottles and did things to encourage the kids to drink the milk.

So I think with the standards doing it gradually was the big difference, but I think what hurt participation was the lunch paid equity situation where the meal cost went up and up and up and you have a family of four and they were having to pay $3 for a meal and that is $12 a day. They could not afford it. So I think that is where we saw the decrease in participation much more, and I think our kids are getting used to the food, our schools and our industry are doing a much better job of coming up with innovative ways of preparing an innovative food for us to purchase, and so I think that is turning around, but I think it was the paid lunch equity more than the food.

Mr. JOHNSON of South Dakota. Ms. Johnson, did she miss anything?

Ms. JOHNSON. I agree completely that it is the paid lunch equity regulation. It has outpriced some of our folks who do not qualify for free and reduced that are not able then to purchase meals at the paid price. That is what we saw in Kansas.

Mr. JOHNSON of South Dakota. Well, Madam Chair, I would just note as my time expires that these are great panelists who answered in such nice, short, direct bursts that let me get through

my questions. So thank you very much and I yield back the time I no longer have.

Chairwoman BONAMICI. I appreciate that and I now recognize Representative Trone from Maryland for 5 minutes for your questions.

Mr. TRONE. Good morning, everybody. I would just thank you guys, again. As Dusty said, these are wonderful, wonderful panelists and we have really enjoyed this presentation. It is great to see folks thinking long term. I mean, the most important thing in long term thinking is about our kids and thinking about the next generation, and so often we in this body are kind of thinking about today and only today and that is not where we need to be, so thank you.

Parts of my district like Washington County over 60 percent of the kids are on free and reduced lunches, and it is not just the economic hardship, but it is often single parents. And there is no coincidence that area is the real heart of this opioid epidemic. So many tragedies have befallen these families one after another.

As you said earlier, so eloquently, it is free books, it is free computers, it is free teachers. How would we not have free lunch? I mean, my goodness, I mean the engine of a young child is running on food, and I have four at home and they eat a lot of food. So we really need this, but yesterday we saw the administration, you know, cut CEP. It could lead to 1.3 million kids not having those free lunches or breakfast.

What do you see, Dr. Ochoa, as far as the long term issues of this food insecurity, but not enough nutrition for their development? And what are some of those health consequences that later on will manifest themselves?

Dr. OCHOA. Thank you. Our research from Children's Health Watch shows that food insecurity not only exacerbates problems that maybe have started in birth, but then will lead to bigger consequences in the long term, more hospitalizations more emergency department visits, more chronic health conditions. And what we are talking about in this hearing to improve the reach of these programs not only reduces food insecurity, but also promotes healthy growth and development, as you mentioned.

The door for our hospital to begin to offer food to kids who are coming to our clinics was CEP. Our hospital, like many academic health centers across the country is in a low income part of Little Rock in the shadow of Central High School. So, because of the community eligibility provision we are able to start with summer feeding and have expanded that to CACFP as well, and offer up to 25,000 meals to kids that are at our clinics. Our kids sometimes wait three and 4 hours during an appointment for a complex health issue. They bring siblings with them. So if we can alleviate the food insecurity that they have the day they come all the better, but we do know that starting early with WIC and all through school, the better that you can feed the engine, as you said, kids will not only do better in school and be ready to enter the work force later, but other chronic health conditions that we can all agree are bad like high blood pressure and obesity could hopefully be prevented.

Mr. TRONE. Anything you would like to add, Ms. Johnson or Ms. Martin?

Ms. JOHNSON. I would just like to add that for a period in my life when my children were small and I did not work in school nutrition but was a consultant dietitian I consulted in nursing homes and for hospices, and we kept having to get larger wheelchairs, beds of bigger size, dining room table chairs bigger, and I was seeing more and more patients under 50 with obesity, sometimes on dialysis, heart problems, diabetes. I have a real passion for child nutrition and public health because of that. I do want to prevent that for my grandchildren.

Ms. MARTIN. And I would just like to say we have the opportunity to change future generations, and if we wait shame on us. Shame on us. I mean, those of us that are in school nutrition who see these kids come to school so excited to have school lunch, and some of them only come to school because of school lunch, and we have got to educate these kids to become productive citizens. And with our supper program the only reason they stay after school to be tutored is because of our supper program. And the reason our athletes are performing well, we had malnourished athletes and because we were able to offer them supper they won their first ever State football championship, and that coach credited the school nutrition program. Imagine that, with that fact that they were able to perform on the field, and for some of our kids that is the only way they are going to get a scholarship to go to school.

Mr. TRONE. Excellent.

Ms. MARTIN. So nutrition just impacts much, much more.

Mr. TRONE. So that is the whole key. That is why so many of us love being on this education committee because it is all about the investment upfront, the investment in our kids, and then the long term payback on better health, better productive jobs, tax revenues. All that money comes back multiple times. Thank you for your time.

Chairwoman BONAMICI. Thank you very much Representative. We are going to finish the questions from members on this subcommittee, including Chair of the full Committee Representative Scott before we move to questions from the members who are not on the subcommittee. But I did want to note that Representative Stefanik was here and is not able to join us now. I did want to note that Representative Stefanik and I have been working on and continue to work on a Child and Adult Care Food Program bill that does extend meals to children who are in care, but it also addresses paperwork reductions and simplifies participation eligibility requirements. So I want to just note that because I am sure that Representative Stefanik would have discussed that had she been here. So I now recognize the Chairman of the full Committee, Representative Scott from Virginia for 5 minutes for your questions.

Mr. SCOTT. Thank you, Madam Chair. Ms. Martin, as a Registered Dietitian you understand the importance of prioritizing diets. Can you share some innovative strategies that schools are using to serve meals that are nutritious and come up to the standards and also delicious?

Ms. MARTIN. Well, I tell you what, we have been very, very creative in doing our meals, and we have worked with the students to get input from them, and so we are now doing things like walking tacos and Asian bowls and hummus. And we actually are trying

to fight with these kinds that bring these Lunchables that can be less than appealing, and so we have started making our own healthy lunchables to compete with them.

So we offer lots and lots of choices, and when you offer lots and lots of choices they pick what they want to eat so nothing goes into the trashcan. We also make sure that we cut up the fruit so that they have time to eat it, and we make sure that we have enough time. So sometimes we have had to add vending machines because we do not have enough serving lines, and not enough time to get the kids through so we have added vending machines to speed up the process.

We prepackage our salads. People are doing salad bars. Salad bars have been huge in the schools. The kids, to see them go through the salad bars. They just pile up their plate with all these fruits and vegetables and they eat ever bite of it because they have chosen it. So it can be done, but we need strong nutritional standards. You have to be passionate about what you do as a school nutrition director and you have to be creative, and so we have got to do a lot of training and we have got to get those people in there that want to do it. And not because they were a principal that got reassigned to be the school nutrition director. Sorry if any of—

Mr. SCOTT. Thank you. No, we have heard a lot of comment about if you have nutritious food it is going to get thrown away and I think if you have food that is nutritious but not tasty people will be throwing it away, but you have shown how you can do both. And can you say another word about why strong professional standards are important? The administration has given flexibility on professional standards. Why is it important to be a fully qualified professional?

Ms. MARTIN. Well, when you were talking about sugars and some of these other things and we talked about whole milk and things like this, as a Registered Dietitian Nutritionist I understand nutrition, and so it is easy for me to plan meals that are low in sugar and are low in fat and saturated fat, and I understand the importance of the dietary guidelines. And so I know how to do menu planning, but if you bring somebody in that does not have those skill sets, honestly, when I am out talking about our program and I have parents tell me, well, all I get is pizza and french fries and juice is what my kids drink and eat every day. It is because they did not have a professional that knew how to plan healthy meals, and that is cheap and easy and they know the kids are going to eat it so that get away with that.

So I think it is just so important to have, and I think it is a huge burden on the State staff to have to train those people that do not know anything about nutrition and do not meet the standards and do not meet the regulations. And that is why I do like a little bit of flexibility with administrative reviews. I have been doing this for 25 years. I know what I am doing. Do not come see me every 3 years. Go see that new director who was the principal and does not know what they are doing and give them the help. So I think we need to stay strong. In Georgia we are hearing a lot of districts get together and have one qualified person be over numerous districts, small districts, and that way everybody gets the benefit of having somebody qualified.

Mr. SCOTT. Thank you. Dr. Ochoa, you said you were in an area with a summer meal program. We have seen evidence that low income students if they do not have activities during the summer will actually regress several months, so when they come back in September they are worse off than they started. Can you say a word about the importance of nutrition programs during the summer months to prevent the summer slide?

Dr. OCHOA. Yes, Chairman Scott, definitely. We know that lots of programs that offer educational opportunities for kids in the summer are also summer feeding sites. And so the fact that they can offer both of those things simultaneously will prevent those kids from, A, going hungry for a longer time during the summer, and, B, preventing that educational slide that you mentioned as well. We have a shelter in Little Rock that also has a early childhood program that has a very robust education component and also offers meals to those kids.

Mr. SCOTT. And has the summer EBT program helped in food insecurity?

Dr. OCHOA. Yes, absolutely. Anything that makes it easier for the kids to access those programs is helpful.

Mr. SCOTT. Thank you. The Chairwoman discussed in her opening remarks that the National School Lunch Program actually began as a national security program. We are still having the same problems, 71 percent of young Americans are ineligible to serve in the military, some for inadequate education, some for criminal records, but a lot for nutritional programs. And I will not ask a question, I will just make the statement that these kinds of programs can address a national security need as well as education and nutrition. So thank you, Madam Chair. I yield back.

Chairwoman BONAMICI. Thank you, Chairman Scott. I now recognize Representative Grothman from Wisconsin for 5 minutes for your questions.

Mr. GROTHMAN. Thanks. We will start by asking Ms. Martin, but you can pitch in if you want. We have other hearings on this Committee and you are asking for higher reimbursement rates. The Federal Government, as you all know, is very broke. You know, I think we are borrowing 19 percent of our budget, and while we certainly have to make sure all children all adequately fed I am going to ask you why or to what degree, you are from Georgia, right?

Ms. MARTIN. Yes, yes.

Mr. GROTHMAN. To what degree have you communicated with the Georgia Legislature or your local school districts as far as putting money into this program instead of the Federal Government, and if you are primarily asking the Federal Government why don't you ask the State or local government?

Ms. MARTIN. Well, you know, I think all school systems will tell you they are struggling to pay teachers, and buy books, and have busses that are safe, and have public security officers, and the requirements upon them are increasing every single day. And so I communicate all the time to our school board and they see the value of school meals. And I understand about the deficit. I am a taxpayer, but I go back to the statement I made earlier. We are ei-

ther going to pay now to change our children's eating habits or we are going to pay later in health care costs.

And I honestly do not feel like we are going to have enough physicians to meet the needs of the diabetics, heart disease, renal failure, high blood pressure and all these issues, cancer. All that are related to eating habits, and if we do not do it now we cannot afford to do it later. We already have—

Mr. GROTHMAN. Let me cut you off.

Ms. MARTIN [continuing]. a great number—

Mr. GROTHMAN. I mean, I know in Wisconsin we ended last year anticipating ending with hundreds of millions of dollars of surplus, and when I Google it that is not unique to Wisconsin. Because the booming economy, high State sales tax receipts, high income tax receipts it is not unusual for States to be running big surpluses, and I just wondered why you are here asking us for our money rather than the, first of all, units of government that are going to have less regulation for you. You need less regulation. And, second, that are running surpluses. I mean, does the Georgia Legislature not appreciate this crisis or do the local school districts not appreciate it or why are you not leading with them?

Ms. MARTIN. Well, I think Cheryl Johnson will tell you there are a lot of school districts in the country that are running in the red because of economic costs and their school boards are having to pick up for the program, and so I think that is a struggle. But I think that the State does provide some money for health insurance benefits and does provide us with guidance and stuff, but I feel like it is a Federal responsibility.

Mr. GROTHMAN. OK. Next question. Doesn't, in general, more Federal money mean more regulations? I mean, you kind of breathed a sigh of relief when you heard that we were doing kind of a little working group on less regulations, and my school districts, and I talk about them, all are kind of irritated with the Federal regulations. They feel the Federal regulations are causing children to throw away their food. Would you, Obviously—

Ms. MARTIN. Yes.

Mr. GROTHMAN [continuing]. that is part of the Federal problem, but would you prefer it if we just took this program, found out how much Georgia or any other State received last year, give them a check and go away and assume that the local people know how to buy nutritious food or do you think we cannot trust the local people and we should continue to do something other than just write a check? And I will ask Ms. Johnson the question.

Ms. MARTIN. Well, let me absolutely just tell you that, no, absolutely, I am totally against that because you cannot have 50 different States deciding what kind of food they are going to serve. The manufacturers could not deal with that. You have got to have national standards with all the programs, and you do not have qualified people always running these programs, so I would be very, very much against that.

Mr. GROTHMAN. So you do not trust the locals?

Ms. MARTIN. I don't trust—It is not that I do not trust them. It is just that nationally our food manufacturers are struggling now because—

Mr. GROTHMAN. OK.

Ms. MARTIN [continuing]. the stability that she talked about—
Mr. GROTHMAN. Well, we will switch to Ms. Johnson.
Ms. MARTIN. Go ahead.
Ms. JOHNSON. I would have the most concern about the effect on our students because if a school district was given just a certain amount of money there would be no reason to try to do innovative school breakfast. There would be no reason to try to feed more kids. They would just want to preserve the funds they had. Or say we had a disaster.
Mr. GROTHMAN. OK.
Ms. JOHNSON. That would be my major concern too.
Mr. GROTHMAN. OK. Now I want to get my final thing in here. I was so relieved because I was here when President Obama was President. I was so relieved when President Trump got in there and his folks began to allow flavored milk so people would not throw away the milk as much. Are you supportive of President Trump, his Administration's initiative to include flavored milk as an option for the kids?
Ms. JOHNSON. I am in favor of children drinking more milk in whatever way that happens because I do believe that calcium is a nutrient that is not consumed in enough quantity in the American diet, especially in teenagers. So that is my stance, personally, as a Registered Dietitian.
Ms. MARTIN. And they never took away the possibility of serving flavored milk. We have always been able to serve flavored milk. That has never gone away, just for a point of reference.
Chairwoman BONAMICI. Thank you, Mr. Grothman. I now remind my colleagues that pursuant to committee practice materials for submission for the hearing record must be submitted to the committee clerk within 14 days following the last day of the hearing, preferably in Microsoft Word format. The material submitted must address the subject matter of the hearing. Only a member of the committee or invited witness may submit materials for inclusion in the hearing record, and documents are limited to 50 pages each. Documents longer than 50 pages will be incorporated into the record via an internet link that you must provide to the committee clerk within the required timeframe, but please recognize that years from now that link may no longer work.
Again, I want to thank the witnesses for their participation today. This has been an excellent discussion and what we have heard has been very valuable. Members of the committee may have some additional questions for you, 5 minutes goes by quickly, and we ask the witnesses to please respond to those questions in writing.
The hearing record will be held open for 14 days to receive those responses. And I remind my colleagues that pursuant to committee practice, witness questions for the hearing record must be submitted to the majority committee staff or committee clerk within 7 days. The questions submitted must address the subject matter of the hearing.
I now recognize the distinguished ranking member for his closing statement.
Mr. COMER. Well, thank you very much for being here today. It is very clear from this testimony and all of our past experiences

that these programs are critical to students and families. We know students cannot learn if they are hungry. We also know how important these programs are to parents who want to give their kids the best opportunities. Thank you, Ms. O'Meara for sharing your story and support for these programs.

We also heard how the paperwork burden and complicated compliance issues can cause significant time and money from programs that do not have much of either. As we begin reauthorization it is critical we make sure the program works on the ground, in our school, and for the students. That means commonsense rules that are not overly complicated and limited paperwork that ensures that the taxpayer dollars are protected without wasting them.

Thank you, again, for being here. Thank you for being on the frontlines and I yield back.

Chairwoman BONAMICI. Thank you, Mr. Comer. I now recognize myself for the purpose of making my closing statement. Thank you, again, to all of our witnesses for being here and sharing your statement stories and your expertise. Today we heard about the importance of childhood nutrition programs in combating hunger and malnutrition across the country.

We heard how for too many families the struggle to put healthy food in the table undermines their financial stability and their children's ability to reach their full potential. We also heard about how research and experience demonstrate that child nutrition standards and programs are among our most effective tools for preventing child hunger and making sure that students are able to focus on learning.

With these child nutrition programs, including the National School Lunch Program, the School Breakfast Program, the Summer Food Service Program, the Child and Adult Care Food Program, and more, Congress has consistently recognized through bipartisan support that a quality education includes making sure that every child has access to healthy and nutritious food. And my list was not exclusive. The Farm to School Program, all of those are wonderful programs.

But our choices are clear. We can either invest in these important programs now and support healthy eating in schools and do what is best for our Nation's children, or we can cut corners and put the well-being of our children and our Nation's future at risk. I hope that for everyone here the answer is simple. We must continue to strengthen child nutrition programs and protect the progress we have made toward providing all children with the nutritious food that fuels their health and their futures. And this is something that I am convinced we can do on a bipartisan basis.

The United States is a wealthy country. We have the resources to reduce hunger and food insecurity. This is a way to break the cycle of poverty. This is a matter of basic humanity and equity, and it is also a good investment. So I look forward to working with all of my colleagues on this important issue, and if there is no further business, without objection, the committee stands adjourned.

[Additional submission by Mr. Comer follows:]

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March 11, 2019

The Honorable Bobby Scott and the Honorable Virginia Foxx
Education and Labor Committee
U.S. House of Representatives
Washington D.C. 20515

Dear Chairman Scott and Dr. Foxx:

The Council of the Great City Schools, the coalition of the nation's largest central city school districts, writes to underscore our support for the regulatory flexibility provided in the December 12, 2018 school meal regulations – which reflect our earlier rulemaking comments. Further, the Council continues to believe that additional flexibilities and revisions to the original January 2012 regulations for the Healthy and Hunger-Free Kinds Act (HHFKA) can be achieved without undermining current nutrient and dietary requirements for school meal programs. The HHFKA regulations have added over $1 billion in annual unreimbursed costs to school meal programs and have complicated the ability of school nutritionists and food service staff to provide attractive food options for students.

To be clear, the Council has been on record as strongly opposing the sale of junk food in our schools and supporting the current nutrient and dietary requirements for school meals -- except for the widely-criticized and congressionally-suspended sodium requirements. Nonetheless, the Council also has long-contended that the Agriculture Department's (USDA) meal pattern regulations represent unnecessary federal micromanagement of school meal programs. Instead of maintaining an appropriate focus on the essential nutrition and dietary requirements for school meals, these extensive regulations dictate the types of food items that public schools are required to serve over the course of each week – including federal requirements on the type, volume, frequency, form, and even the color of food items served in our school cafeterias. Further flexibility in school meal regulations would allow schools to take better advantage of in-season fruits and vegetables, design more desirable meals, reduce plate waste, increase student participation, accommodate culturally-related foods, and control costs.

The Council and our food service directors continue to work with USDA to improve and streamline school meal program regulations in order to provide healthy and attractive school-based meals for our primarily low-income student population.

Sincerely,

Jeffrey A. Simering
Director of Legislative Services
Council of the Great City Schools

National School Boards Association
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March 12, 2019

The Honorable Bobby Scott
Chairman
House Education and Labor Committee
House of Representatives
Washington, D.C. 20515

The Honorable Virginia Foxx
Ranking Member
House Education and Labor Committee
House of Representatives
Washington, D.C. 20515

RE: Increased Flexibility for Child Nutrition Programs

Dear Chairman Scott and Ranking Member Foxx:

On behalf of our state associations and the 90,000 school board members who govern our country's 14,000 local school districts, I write in strong support of recent actions by the United States Department of Agriculture (USDA) to provide much needed flexibility to the child nutrition programs which serve millions of students across our country each day.

As you know, authorization of the Healthy, Hunger-Free Kids Act (HHFKA) of 2010 expired more than three years ago and the nation's child nutrition programs await reauthorization by Congress. As we work towards this reauthorization, school districts across this country continue to face unnecessary hardships in serving healthy meals that students want to eat. NSBA has long advocated before Congress and the Administration for school districts to have more flexibility to serve healthy meals to students.

NSBA applauds recent actions[1] taken by USDA to provide relief from the most onerous HHFKA regulations which include, maintaining the current "Target I" sodium limit through the 2023-24 school year, reducing the 100 percent whole grains requirement to 50 percent – ending the exemption process that some school districts utilized when having trouble meeting the 100 percent whole grain requirement – and allowing schools to offer students flavored one percent milk. These adjustments will help to decrease plate waste and implementation costs.

Further, NSBA appreciates the final rule[2], Hiring Flexibility Under Professional Standards, which adds four flexibilities to the hiring standards for new school nutrition program directors in

[1] https://www.federalregister.gov/documents/2018/12/12/2018-26762/child-nutrition-programs-flexibilities-for-milk-whole-grains-and-sodium-requirements

[2] https://www.federalregister.gov/documents/2019/03/01/2019-03524/hiring-flexibility-under-professional-standards

small local education agencies and new State directors of school nutrition programs. NSBA believes the additional flexibility to the hiring standards will help to ensure that small school districts have the capacity to efficiently and effectively administer school meals programs.

USDA's actions will go a long way in helping reduce the regulatory burden placed on school districts, but there is still work to be done to reduce hardships on school districts particularly those in low income and rural areas. NSBA will continue to advocate for additional school meals flexibilities including:

- Offer vs. serve – go back to offer to help prevent plate waste
- A la carte restrictions – allow all foods served in the reimbursed line to be served as an a la carte item
- Paid meal price mandate – reduce or eliminate this mandate, which led to increase meal costs for all students and ultimately lower participation rates
- Administrative review cycle – restore the five-year review cycle as many districts are performing well and do not have the resources to comply with the current review cycle.

As the Committee works to reauthorize child nutrition programs, we hope to be a resource to you. School boards play an integral role in implementing school nutrition programs, overseeing local program administration responsibilities such as menu selections, meal preparation, pricing and revenue collection, budgeting, contract/supplier management, and more. Therefore, we appreciate the increased focus on stakeholder engagement along with the opportunity for school boards to weigh in on policies that will have a far-reaching impact on their school districts.

Sincerely,

Thomas J. Gentzel
Executive Director and Chief Executive Officer

[Additional submission by Dr. Ochoa follows:]

Appendix 2:

Estimating the Health-Related Costs of Food Insecurity and Hunger

John T. Cook, PhD, MAEd, Principal Investigator, Associate Professor of Pediatrics, Boston University School of Medicine
Ana Paula Poblacion, MSc, Project Manager & Research Assistant, Universidade Federal de São Paulo

Introduction

Hunger is a health issue. This report is primarily about health-related costs attributable to food insecurity and hunger in the United States in 2014. The report also includes other kinds of costs associated with food insecurity, but its focus is health-related costs. Our charge is to update information on costs of food insecurity in the United States published in 2011,[1] employing the most recently available data on prevalence of food insecurity in 2014 with the most valid estimation procedures available, and to expand on the health-related costs attributable to food insecurity in the United States.

Executive Summary

Each September the Economic Research Service of the U.S. Department of Agriculture (USDA) reports estimates of the number and prevalence of people living in food insecure households by various demographic characteristics and levels of severity of food insecurity. Data for this report come from the December implementation by the Census Bureau of the Current Population Survey, a nationally representative survey of the U.S. population. In 2014, there were 48.135 million people (15.4 percent of the total population) living in households that were food insecure at some level of severity (Exhibit 1). The number of food-insecure people in the United States in 2014 was 11.906 million higher than in 2007, the year the Great Recession began, and only 0.697 million lower than in 2010. Between 2010 and 2014 the nation's food security situation did not improve appreciably.

Exhibit 1 **Number and percent of people living in food-insecure households in the US, 2007-2014**

Year	Total Number of Individuals Food Insecure (1000s)	Percent of Individuals Food Insecure
2007	36,229	12.2%
2008	49,108	16.4%
2009	50,162	16.6%
2010	48,832	16.1%
2011	50,120	16.4%
2012	48,966	15.9%
2013	49,078	15.8%
2014	48,135	15.4%

Source: Coleman-Jensen, et al., 2015[2].

The most recent prior estimates of the cost of food insecurity to the nation by researchers at Brandeis University[1] addressed costs within three domains: illness costs, education and related costs, and charity costs. The total illness costs estimated for calendar year 2010 within these three areas was $130.5 Billion.

We surveyed empirical food security research literature published in peer-reviewed academic journals between 2005 and 2015,

and based our estimates on relationships identifiable in that literature. Using information from the research literature reviewed, and from the 2011 Brandeis report, *we estimate the health-related costs attributable to food insecurity to be $160.07 Billion in 2014* (Exhibit 2).

Domains of Costs Addressed in this Report

The cost estimates described in this report address the following domains:

1. Direct costs of treatment of specific disease or health conditions that are plausibly attributable to household food insecurity.
2. Direct costs of special education in public primary and secondary schools plausibly attributable to food insecurity.
3. Indirect costs of lost work productivity resulting from:
   a. Workers' own illnesses or other health problems attributable to food insecurity,
   b. Workers providing care to a family member whose illness is attributable to food insecurity.

Exhibit 2 **Estimated Costs Attributable to Food Insecurity and Hunger in the US, 2014**

Source of Cost	Costs ($Billion 2014 Dollars)
Direct health-related costs in 2014 based on new research evidence	$29.68
Non-overlapping direct health-related costs reported by Brandeis researchers in 2011, continued in 2014 and expressed in 2014 dollars	$124.92
Indirect costs of lost work time due to workers' illnesses or workers providing care for sick family members based on new research evidence	$5.48
Total direct and indirect 2014 health-related costs	**$160.07**
Indirect costs of special education in public primary and secondary schools, based on new research evidence	$5.91
Total costs of dropouts reported by Brandeis researchers in 2011, continued in 2014 and expressed in 2014 dollars	$12.94
TOTAL ESTIMATED COSTS	**$178.93**

Sources described in document text.

Methods

To estimate the direct health-related costs attributable to food insecurity in 2014, we reviewed empirical research literature published in peer-reviewed journals from approximately 2005 to 2015, searching for quantitative findings of associations between food insecurity and health outcomes. We specifically searched for quantitative findings that involved either odds ratios (most often), likelihood ratios, or relative risk ratios expressing the differences in likelihood of a person living in a food-insecure household having a disease or disease condition compared to a person living in a food-secure household (food security status is the exposure variable).

Those probability ratios were then translated into population attributable fractions (PAFs) expressing the proportion of the total prevalence of the disease in the population attributable to food insecurity (i.e., the excess fraction attributable to food insecurity). As noted above, this process requires the assumption that food insecurity is causally related to the disease conditions.

In case-control studies, if adjusted odds ratios (ORs) are available, they can be transformed into relative risk ratios using formula 1 below[3]:

1. $RR = OR/[(1-Po)+(Po*OR)]$,

   where RR is the relative risk ratio,

   OR is the odds ratio, and

   Po is the proportion of the unexposed (food secure) who develop the outcome, or become cases.

This adjustment is desirable since, though the OR is an acceptable estimate of the Relative Risk ratio (RR) in case-control studies, and approaches RR in the situation of rare diseases in which very few of the unexposed develop the disease, the higher the prevalence of the disease in the unexposed popu-

lation (e.g., the food-secure population), the greater the deviation of the RR from the OR.

With the relative risk ratios thus calculated (or if they are available), they can be used to calculate estimates of the excess population attributable fractions (PAF) of the diseases arising due to exposure to the predictor, food insecurity, using formula 2 below[4]:

1. PAF = Pe (RR - 1) / [Pe (RR - 1) + 1] * 100%, where

   PAF is the excess population attributable fraction of disease in the population considered to result from the presence of the exposure variable or condition (i.e., food insecurity),

   RR is the relative risk ratio calculated as above, and

   Pe is the proportion of controls (those who do not have the outcome or disease) who were exposed (live in a food-insecure household).

A complete table of all the conditions for which we found new studies providing the information needed to calculate attributable fractions can be found in Appendix Exhibit A1. For most of the health conditions, the attributable fraction (AF) is relatively small, 10 percent or less. For a few conditions we found research results leading to more than one AF for a condition. In those cases, we either used the average of the AFs, or used the one which was more reliable for the specific age group and condition under consideration. And for a few conditions, we were either unable to find data on the prevalence and number of people in the relevant sub-population with the condition, or data on the cost of treating cases of the condition. In those few instances, we were unable to estimate the disease burden or the costs. This was particularly true when the condition was failure to receive recommended or prescribed treatment, or treatment foregone due to inability to pay as a result of food insecurity.

For a couple of conditions (e.g., PEDS concerns; parents report of developmental concerns about their child), we had to add an additional link to the chain of logic such as obtaining positive predictive value of the indicator (PEDS concerns) and the outcome (special education). With a few conditions for which we could not find needed prevalence data, we relied on data from the U.S. Census Bureau on relationships between reported health status and health services utilization.[5]

Using the information in Exhibit 1A, together with data from the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey (MEPS, or other national survey data) on the number of cases of each disease condition in the population in 2014 (when available), we estimated the fraction (proportion) of cases of each health condition attributable to food insecurity. Combining the results of these calculations with data on annual expenditures for treatment of individuals with the condition (from MEPS or other national health surveys), we estimated the total annual direct costs of treatment for all individuals with the condition.

Data on numbers of hospitalizations, and average costs of hospital stays were obtained from the Agency for Healthcare Research & Quality's Healthcare Cost & Utilization Project public access data obtained via the HCUPnet online query system (http://hcupnet.ahrq.gov/). Data were obtained from both the HCUP National Inpatient Database and the HCUP Kids' Inpatient Database. Several price index series were used to adjust the price of various healthcare services. These price indices were taken from the Bureau of Labor Statistics' online databases (http://www.bls.gov/cpi/). Resulting estimated costs for each condition are presented in Appendix Exhibit 2.

The Brandeis researchers estimated the cost of the private food assistance system at $17.8 Billion in 2010 ($19.52 Billion in 2014 dollars), and we calculated the total cost of the public food assistance system to be $103.55 Billion in 2014. However discussions with healthcare colleagues and others led us to the position that the costs of these two complementary food assistance systems are more accurately viewed as the costs of prevention of food insecurity, not as a cost of food insecurity itself. The costs of these two food assistance systems are the costs of the vaccine that prevents food insecurity and hunger from occurring in the nation's households, families and children. Thus the costs of these two systems are not included as costs attributable to food insecurity.

Background and Context

A Note on Hunger

Hunger is probably a more complex phenomenon than most people imagine. The term is used to mean several different things, and its scope varies depending on its intended meaning. First, hunger is part of humans' "creatureliness," arising from of our nature as living systems that require regular intake of food to live, act, grow, develop, and be healthy. We all experience hunger every day; we know when we are hungry, and we can tell someone how hungry we are; i.e., we can "self-report" our hunger and its severity.[6]

At its most basic level, hunger is a neurochemical feedback loop: a reinforcing feedback loop that leads to more food intake the hungrier we are. The hunger feedback loop involves transmission of information to the brain as the stomach empties and its biochemical state changes. The time required for this emptying process is approximately 2-4 hours, depending on the contents of the stomach, activity levels, and other factors. It coincides generally with humans' customary schedule of eating three meals per day. When a person's normal pattern of food intake is interrupted by a lack of food, she becomes hungry. If she doesn't eat, she becomes even hungrier.[6]

Hunger can be described and measured in several ways. It is a drive to find and consume food, and the intensity of this drive depends partly on the amount of food eaten during, and length of time since, the last episode of food intake. Hunger also is a state, with physical and mental components; it is the opposite of satiety. When we are hungry, and food is readily available, and accessible, we eat until we are sated, or no longer hungry, and normally then we stop eating. Satiety is also a neurochemical feedback loop; a balancing feedback loop that leads to less food intake as the stomach fills and sends neurochemical signals to the brain causing the feeling of satiety to increase, and the feeling of hunger to decrease. Healthy people, with no eating issues, stop eating when they become sated.

But the "processes" of hunger and satiety are neither mechanistic nor completely regular. And they are not isolated within an individual. They occur within and are strongly influenced by social contexts, because humans are social beings. Each of us is a set of body systems living and acting within concentrically larger and more complex social systems. And we experience hunger as both a personal and a social condition. Our very earliest social interactions involve being fed, and nurtured. And as we grow, food, hunger, eating together, sharing food, being fed, nourished and nurtured, and nourishing and nurturing others, are fundamental social processes through which we learn to trust, respect, and care for each other.

We learn through social interactions around hunger, food, and eating that we depend on others, and that others depend on us. We learn etiquette: basic social rules that form a foundation on which we build ethics, and moral values. We celebrate important life-cycle events, such as birthdays, graduations, marriages, religious and civil holidays, and deaths, by enjoying and sharing food. Food and satisfying hunger are at the base of Maslow's hierarchy of needs,[7] and until their food and hunger needs are met, humans cannot fulfill other higher-order needs. But food and hunger are also social, and they permeate our social lives. We employ food and hunger, and satisfying hunger, in pursuit of higher-order needs.

So hunger is an individual set of feelings and sensations, grounded in individuals' neurochemical feedback loops, but it is even more a set of social feelings and sensations, grounded in humans' social nature. We live in relationships, some intimate, some casual, some formal, some informal, but all fundamental to our nature as social beings. Hunger is both an individual and a social process, experienced and responded to in social contexts through social interactions and processes. And when hunger cannot be satisfied, for whatever reasons, it affects our social beings, our social lives, social relationships, and social interactions.

Hunger becomes problematic when it cannot be reduced, or when we cannot respond to it appropriately, because we lack the wherewithal or resources necessary to obtain and consume food in socially acceptable ways. The reinforcing feedback loop of hunger can become out of control, and cause the system to collapse, literally, if the balancing feedback loop of satiety is not able to operate. But neither of these feedback loops operates

in isolation; both also are social processes operating within social contexts. And they involve and depend on social interactions to reestablish balance.

Hunger becomes a social policy issue when the social context, and all the social relationships it involves, fail to provide socially acceptable ways for individual or family systems to obtain the food needed to address hunger in socially acceptable ways. When this occurs, those systems are placed at risk for toxic stresses. And toxic stress, intense acute stress or less intense chronic stress, can be very corrosive and destructive. It damages both child and adult health, and is especially pernicious in young children. Toxic stress can damage the architecture of children's developing brains[8, 9] and place significant constraints on their human capital development, impairing the trajectories of their entire lives.[10]

The toxic stress of socially ignored or tolerated hunger damages physical and mental health, but it also erodes basic trust in and respect for social relationships, institutions, and the people within them. Our health, well-being, and prosperity depend on a strong functional base of trust, respect, and compassion in all our relationships. These are the glue that binds the public together and makes it healthy and strong. And without a healthy, strong public, none of us can really be healthy and strong or prosperous, either as individuals or in relationships. Humans are social, inter-dependent beings, and our health, strength, well-being and prosperity depend on the public welfare and strong public infrastructure. As trivial as it can sometimes sound, we very literally are all in this together. There is no "us" and "them," there is only us. And when some of us experience food insecurity or hunger, it harms and diminishes us all.

Food Insecurity and Hunger

"Food security—access by all people at all times to enough food for an active, healthy life—is one of several conditions necessary for a population to be healthy and well nourished."[11] Food insecurity and hunger are measured in the US with a household survey administered each December by the U.S. Census Bureau. The U.S. Food Security Survey Module and the Food Security Scales it contains were developed in the 1990s under the Food Security Measurement Study, a multi-agency collaborative effort involving scientists and academics, government analysts and policy experts, and individuals from for-profit and not-for-profit private entities.[6] The primary food security scale development activities were implemented through a competitive contracting process sponsored and overseen by the USDA and the National Center for Health Statistics (NCHS), with Abt Associates, Inc. as the prime contractor.

The food security and hunger scales developed by the Abt team were incorporated into the ongoing national Current Population Survey (CPS) implemented by the Census Bureau annually. Data from administration of the scales in the CPS are delivered by the Census Bureau to the USDA Economic Research Service (ERS) for summary analysis, estimation of prevalence in different socio-demographic subgroups, tabulation and reporting in its annual reports on food security in the US.

A Note on Causality

Establishing causation is correctly the ideal of all scientific endeavor, but it is seldom achieved, especially in the health and social sciences. The experimental design considered by most scientists, and many non-scientists, to be the "gold standard" for determining causality is the randomized controlled trial or "RCT," in which randomization can "control for" unobserved potentially confounding factors that might lead researchers to erroneously infer causation in relationships, by rendering those confounders random in the studied samples. Yet as good as they are, RCTs are not perfect, nor are they immune from various kinds of error.[12]

Moreover, many of the phenomena and conditions of interest in both health sciences and social sciences are not amenable to randomization. It would be unethical, for example, to randomly assign subjects to conditions of food insecurity or hunger, or to randomly assign food-insecure households to receive or not receive food assistance or other interventions. Consequently, food security research almost always relies on creative quasi-experimental designs, and efforts to control for unobserved confounders statistically.

Thus, conclusive, unassailable evidence that food insecurity causes the multitude of illnesses and adverse health conditions that a very large body of research liter-

ature indicates it is strongly related to most likely cannot be produced. Yet, as with the relationships between smoking tobacco and lung, throat, and mouth cancers, the evidence of relationships between food insecurity and these health outcomes is so strong, and the expected consequences of not treating the relationships as causal are so grave that we are justified in acting on strong evidence even if it is not absolutely conclusive and unassailable.

A Groundbreaking Study Helps Provide A Path Forward

An extremely important recent study of the relationships between food insecurity and health care costs in Ontario, Canada, where health insurance is universally available, achieves a major breakthrough toward providing conclusive evidence of causal relationships between food insecurity and adverse health outcomes. Since health insurance is universally available in Ontario, the intractable obstacle of adverse selection bias is virtually eliminated in this study. Successfully merging administrative data on health services utilization and costs in Ontario with data on food security status of Ontario households from the Canadian Community Health Survey, the researchers come closer than any yet to demonstrating that food insecurity causes bad health outcomes.

Results from this path-breaking research show a monotonic dose-response relationship between severity of food insecurity and total health care costs per person, after adjusting for a number of potential confounders known to be social determinants of health, even after excluding prescription drug costs which are only covered for a subset of the population.[13] Moreover, food insecurity was strongly and significantly related to healthcare costs, whereas income quintile of patients' neighborhood was not.[13]

While this study does not connect food insecurity causally with specific diseases, results are described as consistent with findings from other research of strong associations between food insecurity and poorer self-reported health status, increased likelihood of chronic disease diagnoses, poorer management of disease, and increased healthcare costs. The study's authors also note that "the extreme levels of material deprivation associated with household food insecurity, and severe food insecurity in particular, have been associated with extensive dietary compromise, higher levels of stress, and compromises across a broad spectrum of basic needs, all of which diminish individuals' abilities to manage health problems and potentially increase the need for health care.[13]

So while the presence of causal relationships between food insecurity and specific diseases and adverse health outcomes remains to be conclusively established, this study comes closer than any previous research to establishing conclusive causal relationships between food insecurity and higher health services utilization and health related costs. It is, therefore, a breakthrough, and provides strong support for the cost estimates produced in this current study.

Updating the October 2011 Hunger in America Cost Estimates

In October 2011, researchers at Brandeis University published a set of estimates of national-level costs

Exhibit 3 **Estimated costs of food insecurity and hunger in the US, 2007 and 2010.**

	2007 ($Billions)	2010 ($Billions)	Amount of Change, 2007-2010 ($Billions)	Percent Change, 2007-2010
Illness Costs	$98.4	$130.5	$32.1	33%
Education and Related Costs	$13.9	$19.2	$5.3	38%
Charity Costs	$13.2	$17.8	$4.6	35%
Total Hunger Bill	**$125.5**	**$167.5**	**$42.0**	**33%**

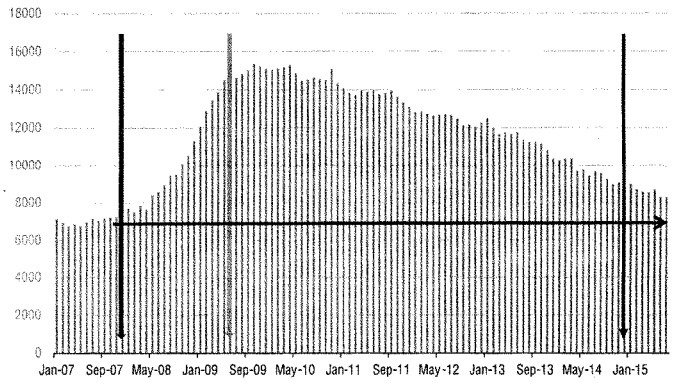
Source: Recreated from Shepard, et al., 2011[1].

attributable to food insecurity and hunger in 2010.[1] Those estimates (Exhibit 3) comprised an update of an earlier set published in 2007.[14] The authors concluded that costs attributable to food insecurity and hunger in 2010 conservatively amounted to a total of $167.5 Billion spread over illness-related costs, education-related costs, and charity costs (Exhibit 3). The costs estimates produced for 2010 ranged from 33 percent to 38 percent higher than the 2007 estimates across these categories. As described in the remainder of this section, there is little evidence that economic conditions in 2014 were sufficiently better than those in 2010 to suggest significant reductions in the costs attributable to food security over that period.

Over the period 2007-2010, food insecurity increased dramatically, mainly due to the Great Recession and the massive increases in unemployment during the recession and after it officially ended (Exhibit 4). In Exhibit 4, the red vertical arrow indicates the month the Great Recession began (December 2007), and the green vertical arrow the month it was determined by the National Bureau of Economic Research (NBER) Business Cycle Dating Committee to have ended (June 2009). The horizontal blue arrow marks the level of unemployment in the month before the recession began (November 2007). As the chart shows, the number unemployed in January 2013 was above 12.3 million, but declined steadily throughout the year, ending at just over 10.3 million. However, more than six years after the end of the recession (July 2015), the number of unemployed people in the U.S. labor force had not returned to its pre-recession level.

In July 2015 there were still more than a million more unemployed workers than in the month prior to the start of the recession (November 2007). Unemployment more than doubled during the recession, going from 7.24 million in November 2007 to 14.71 million in June 2009, the month the recession ended. And it continued to increase, surpassing 15 million in September 2009 and

Exhibit 4 **Number of unemployed workers in the US labor force by month, from January 2007 through July 2015.**



Source: US Bureau of Labor Statistics (http://data.bls.gov/pdq/SurveyOutputServlet;jsessionid=AE49BA7CEFB5EEB690DE95D4FC5D758F.tc_instance5).

staying above 15 million until May 2010. The recovery of jobs since the recession ended has been extraordinarily slow, with ups and downs as Exhibit 4 shows.

Among the most harmful aspects of the very high unemployment levels during and after the Great Recession was the unparalleled expansion of the number of long-term unemployed, workers who had been unemployed for 27 weeks or longer. The number of long-term unemployed reached a record high of 6.7 million, 45.1 percent of all the unemployed in the second quarter of 2010. In addition, the proportion of unemployed workers who had been unemployed for 52 weeks or longer reached a record high of 31.9 percent in the second quarter of 2011, and the proportion who had been unemployed for 99 weeks or longer reached a record high of 15.1 percent in the fourth quarter of 2011.[15] And while all three of these measures of long-term employment have declined over the past several years, they remain high by historical standards.

Another extraordinary characteristic of the very slow job recovery from the Great Recession has been the large numbers of people withdrawing from the labor force; some for non-economic reasons, but others because they could not find suitable work, or any work at all. Between the end of the recession in June 2009, and December 2010, nearly 6 million people (5.999 million) withdrew from the labor force. By the end of 2013, an additional 6.6 million had withdrawn. Workers have continued to withdraw from the labor force since the end of 2013, but the rates of withdrawal have slowed and been nearly offset by new entrants. Even so, in July 2015, there were 12.6 million more workers not in the labor force than when the recession ended in June 2009.[16]

Among the 12.6 million people who withdrew from the labor force since the recession ended, nearly half chose to attend or return to school, or to engage in other non-labor force activities voluntarily. However, just over half reported they were available to work and wanted a job, but were not finding any. In addition to these labor-force leavers, the number of so-called "discouraged workers," who had looked for work sometime within the past year, but recently stopped looking because they believed there were no jobs available for them, went from 363,000 to 793,000 during the recession, and reached 1.318 million by December 2010. The number of "discouraged workers" remained close to 1.0 million over 2012-2014, but had declined to 668,000 by July 2015, still nearly double the number when the recession began.

In addition to the very large increases in numbers of unemployed, long-term unemployed, and those who withdrew from the labor force for economic reasons, the Great Recession also led to major increases in the number of "involuntary part time workers," people who wanted to be working full time but were only able to find part-time work. From November 2007, the month before the recession began, to when it ended in June 2009, the number of involuntary part-time workers doubled,[16] increasing from 4.494 million to 9.024 million. And as with unemployment, this number remained little changed through December 2010 when it was 8.935 million. By the end of 2013 the number of involuntary part time workers had fallen to 7.776 million, and in July 2015, at 6.325 million it was still 41 percent higher than in the month before the recession began.[16]

Thus in terms of labor market conditions, the unprecedented high levels of unemployment during and following the Great Recession have slowly declined over the past six years, but labor markets and the employment situation has by no means returned to normal, unless this is the "new normal." While the number of unemployed per month over the period January 2008 to December 2010 averaged 12.683 million workers, during the period January 2011 to December 2013, most of the period over which we are updating the estimates of costs attributable to food insecurity and hunger (indicated by the black vertical arrow in Exhibit 4), the average number of unemployed each month was 12.563 million, less than 1.0 percent lower (0.95 percent) than the average over 2008-2010. Thus on the basis of unemployment, under-employment, long-term unemployment, labor force withdrawals, and other labor force conditions, there is no reason to expect food insecurity, or its costs, to be significantly lower in 2014 than in 2010, and several reasons to expect them to be higher.

While the recovery has been very robust in terms of growth in GDP and corporate profits, with GDP growing at an average annual rate of 3.28 percent, and

corporate profits increasing by an average of nearly 10 percent per year over the period 2010-2014 in the non-financial sector of the economy (which includes manufacturing, transportation, utilities, wholesale and retail trade, and information), average weekly earnings for workers in private non-agricultural industries only increased in real (inflation-adjusted) terms over that period, by an average of 0.08 percent per year. The unavoidable implication of these numbers is that many people who have been able to find jobs during the recovery are earning less and less in real, inflation-adjusted terms, while corporate profits have increased at unprecedented rates.[17] These stagnant weekly earnings resulted in median annual income levels in real 2014 dollars for households declining from 2007-2010 by -6.7 percent. And while median income levels did not decline further from 2010-2014, they only increased by 0.28 percent, i.e., by less than three tenths of a percentage point in real 2014 dollars over the five years. It is worth noting that these trends in real average weekly earnings and real median income are unprecedented in the history of the U.S. economy since the Great Depression ended.

The unprecedented increase in food insecurity during the first year of the Great Recession is apparent in the data on food insecurity levels and prevalence in Exhibit 5, as is the persistence of high prevalence of all levels of severity of household food insecurity throughout the period 2008-2010, as well as 2011-2014. The economic context underlying the dramatic increases in food insecurity prevalence at all levels of severity was characterized primarily by massive increases in job losses and unemployment.* The economic context underlying the persistence of resulting

Exhibit 5 **Numbers and percents of people in the United States living in Food-Insecure households by food security status of the household, 2007-2014.**

Year	Total Number of Individuals Food Insecure (1000s)	Percent of Individuals Food Insecure	Number of Individuals in Households With Low Food Security (1000s)	Percent of Individuals in Households With Low Food Security	Number of Individuals in Households with Very Low Food Security (1000s)	Percent of Individuals in Households with Very Low Food Security
2007	36,229	12.2%	24,287	8.2%	11,942	4.0%
2008	49,108	16.4%	31,824	10.6%	17,284	5.8%
2009	50,162	16.6%	32,499	10.8%	17,663	5.9%
2010	48,832	16.1%	32,777	10.8%	16,055	5.3%
2011	50,120	16.4%	33,232	10.9%	16,888	5.5%
2012	48,966	15.9%	31,787	10.3%	17,179	5.6%
2013	49,078	15.8%	31,974	10.3%	17,104	5.5%
2014	48,135	15.4%	30,922	9.9%	17,213	5.5%

Source: Coleman-Jensen, et al., 2015[2].

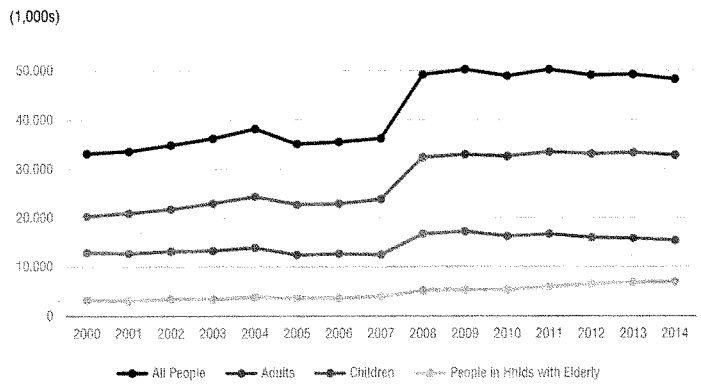
*The bursting of the housing bubble and collapse of the financial institutions whose unfettered speculative gambling with contrived "bundled instruments" of questionable legality was responsible for the subprime mortgage debacle, and ultimately for both the housing bubble and its bursting, led to unprecedented losses of wealth held in the form of owner-occupied residential real estate. That huge loss of wealth together with the large debt loads many homeowners had accumulated through "equity lines of credit" supported by the homes whose mortgages they were no longer able to afford, and the massive devaluation of residential real estate that followed bursting of the bubble, all contributed to the complex, multi-faceted market failures accompanying the financial market collapse. And all these market failures worked to shut down activities that had been employing millions of workers, thus playing a major role in initiation of the Great Recession. While the "too big to fail" banks and other financial institutions who were propped up and bailed out with public revenues quickly recovered and are among the corporations now earning unprecedented profits, the millions of homeowners, and other people who lost their homes, their wealth and their jobs are still struggling to recover. And they are among the millions of Americans still suffering from food insecurity. However, as relevant, interesting and important as this larger story is, its telling is beyond the scope of this project.

high prevalence of food insecurity in the years since the recession ended was one of declining weekly earnings, declining then stagnant real median income levels, major increases in the numbers of people engaging in involuntary part-time work, extraordinary numbers of workers withdrawing from the labor force for economic reasons, mainly because they could not find jobs, and the large increase and persistence of high numbers of long-term unemployed and "discouraged workers" over these two periods. Unfortunately there are few reasons to expect these conditions to change for the better in the near term.

The effects of these labor market dynamics on food insecurity are depicted graphically in Exhibits 6 and 7. While the increase in household food insecurity was rapid and extensive for adults and children, it was less pronounced among people living in households with elderly (Exhibit 6). However, while the number of food insecure adults stabilized at its higher level over the period 2010-2014, and the number of food-insecure children declined slightly from its peak in 2009, the number of food-insecure people in households with elderly continued to increase throughout the period 2010-2013, offsetting the decline in the number of food-insecure children. The net result of these subgroup changes was a fairly stable plateau of the total number of people living in food-insecure households at a level 12-14 million higher than its pre-recession level. Most notably, in spite of the supposed recovery from the recession, and significant declines in the total number of people unemployed over the period 2010-2013, economic conditions persisted that prevented food insecurity from declining.

Though the absolute numbers are comparatively smaller, the number of people living in households with very low food security, or severe food insecurity (previously food insecurity with hunger), increased in a pattern very similar to low food security (Exhibit 6). A notable difference between the trends in low food

Exhibit 6 **Numbers of people in the United States living in food-insecure households by age group, 2000-2014.**



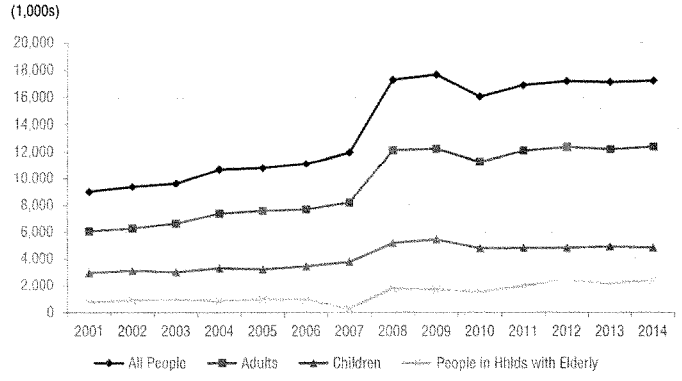
Source: Coleman-Jensen, et al., 2015[2]. (People in households with elderly can be of any age.)

security (Exhibit 6) and those for very low food security (Exhibit 7) is that the prevalence of very low food security had been on an upward trajectory since 2000, especially among adults, but also to a lesser degree among children.

The fall in prevalence of very low food security over 2009-2010 (Exhibit 7) partially reflects the across the board 13 percent increase in SNAP (Supplemental Nutrition Assistance Program) benefits and enhanced eligibility for single adults who had lost jobs, instituted under the American Recovery and Reinvestment Act (ARRA).[18] SNAP is the largest federal food assistance program, and also an entitlement program, making it the most important "counter-cyclical" support program the United States has. Since it is an entitlement, SNAP must be provided to all eligible applicants. Therefore in economic downturns that occur periodically as part of the usual business cycle, when jobs are lost and unemployment increases, more families and individuals become eligible for SNAP, and SNAP enrollment increases. When a recovery gets underway and jobs are created, unemployment falls, and the number of families eligible for SNAP, and SNAP enrollment decline. That makes this food assistance program the only real counter-cyclical program in the United States. Relative to low food security, very low food security appears to have responded more noticeably to the higher SNAP benefit levels.

The persistence of high levels of food insecurity into 2014 is thus largely due to underlying weakness in the recovery from the Great Recession of 2007-2009, especially the extraordinarily slow recovery of jobs in the economy. It is also the result of changes in the structure of labor markets, work, and job stability. Emergence of "contingent labor," companies ability and willingness to rely on contract labor and temporary jobs that do not provide benefits, and to adjust their demand for labor practically in real time by notifying workers on

Exhibit 7 **Numbers of people in the United States living in households with very low food insecurity on the adult or household scale, 2000-2013.**



Source: Coleman-Jensen, et al., 2014[11]. (People in households with elderly can be of any age.)

a daily basis as to whether they are needed, all have made work, earnings, and income less stable. Volatility in earnings for wage workers may be the "new normal," and its effects can be seen in persistent poverty and food insecurity (Exhibit 8).

Effects of efforts to reduce or eliminate SNAP benefits, and other social infrastructure that provide support for U.S. working families are likely reflected in the reductions in both the number of people receiving SNAP and the average SNAP benefits per person from 2013 to 2014 (Exhibit 9). These declines in SNAP benefits and participation are, in turn, likely a factor in the persistence of high food insecurity levels from 2013 to 2014.

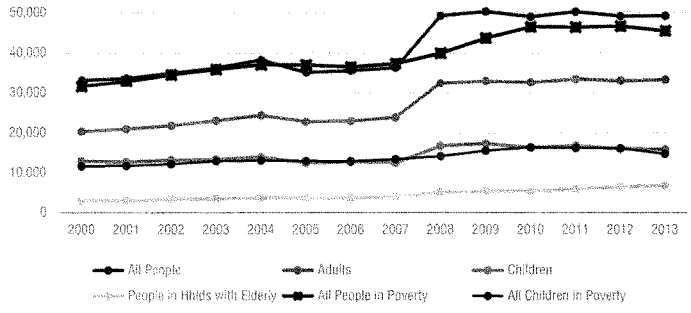
Conclusion

Food insecurity in the US was at an unacceptably high level in 2010, and remained so through 2014. The costs attributable to food insecurity are also unacceptably high. The extraordinarily slow recovery of employment from the Great Recession is a key factor in persistent food insecurity in the United States, however changes in labor market structures and practices also play a role.

The health-related costs associated with food insecurity are clearly high. Though we estimated costs related to several disease conditions that are plausibly attributable to food insecurity, there are others that we did not find sufficient evidence to estimate. What is clear is that the health-related costs of food insecurity and hunger are high, and are likely to increase unless addressed. The Affordable Care Act has provided several windows of opportunity for the healthcare system to engage with and contribute to viable solutions to food insecurity and hunger, and these need to be implemented and supported.

The public and private social infrastructures that have emerged in response to food insecurity and hunger in the United States have very large associated costs, but it is important to acknowledge that both the public and private food assistance systems meet multiple objectives, some of which are not directly related to reducing food insecurity. SNAP is our largest and

Exhibit 8 **Numbers of people in the United States living in food-insecure households by age group, with the numbers of all people and children in households with incomes below poverty, 2000-2013**



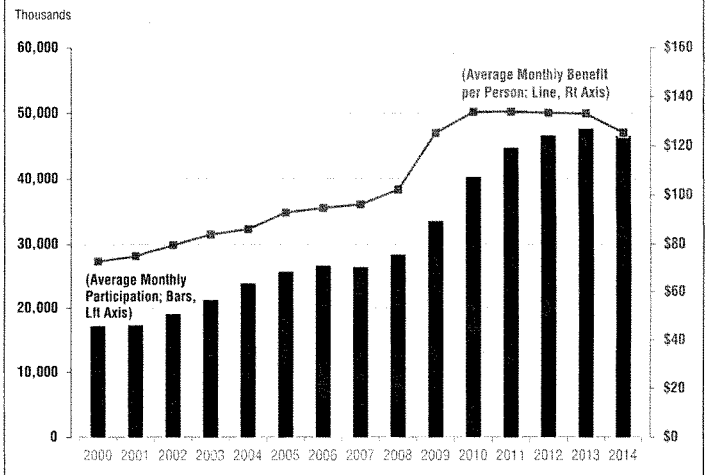
*Though data on poverty in the US in 2014 will be released by the Census Bureau later this month, they are currently only available through 2013.

most effective counter-cyclical program to offset the inevitable downturns in economic activity and availability of jobs that is systemically built into the U.S. economy. WIC provides nutrition education and medical services in addition to food targeted specifically to pregnant and lactating mothers, and infants and children.

In addition to providing much needed food and other services for low-income and food-insecure families and individuals, the private food assistance system also provides opportunities for corporations to remove unprofitable product from their inventories, reduce their tax burdens, and improve public perceptions of their degree of social responsibility. In addition, both the public and private food assistance systems provide much-needed jobs, many of which pay very well.

It is also extremely important to note that the public and private food assistance systems comprise complementary systems for dealing with food insecurity and hunger, with overlap and interaction between the two systems. And it is necessary to state the obvious fact that the two systems combined are still far from adequate solutions to the problems of food insecurity and hunger. Food insecurity and hunger, like poverty, their main proximal cause, are systemic problems that result from numerous market, policy, and leadership failures. And they will not be eliminated until those systemic failures are acknowledged, addressed, and resolved.

Exhibit 9 **Average monthly number of SNAP participants, and average monthly per person benefit level, 2000-2014.**



Source: USDA Food and Nutrition Service; SNAP program data (http://www.fns.usda.gov/pd/supplemental-nutrition-assistance-program-snap)

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Exhibit A1 **Health conditions for which information was available to calculate population attributable fractions indicating the proportion of cases in the population attributable to food insecurity.**

	Relationship	AOR*	RR*	AF*	Source
1)	HFI & Child non-perinatal hospitalization (yes-no):	1.31	1.23	4.55%	Cook, et al., J Nut, 2004[19]
2)	HHLD FI & Caregivers' report of child health status fair/poor:	1.90	1.73	12.47%	Cook, et al., J Nut, 2004[19]
3)	HFI & Caregivers' report of PEDS 1 concerns:	1.76	1.60	10.87%	Rose-Jacobs, et al., Peds, 2008[20]
4)	HHLD FI & Caregivers' report of PEDS 2 concerns:	1.46	1.43	9.09%	Cook, et al., Adv Nut, 2013[21]
5)	CFI & Iron deficiency Anemia:	2.40	2.01	8.25%	Skalicky, et al., J MCH, 2006[22]
6)	HFI & Caregivers' self-reported health status fair/poor:	2.28	1.91	6.81%	Cook, et al., Adv Nut, 2013[21]
7)	HFI & Caregivers' self report of Positive Depressive Symptoms:	3.06	2.28	10.96%	Cook, et al., Adv Nut, 2013[21]
8)	HFI + PDS & Caregivers' report of child health status fair/poor:	2.45	2.12	8.45%	Black, et al., Arch Ped Adoles Med, 2012[23]
9)	HFI + PDS & Child non-perinatal hospitalization (yes-no):	1.35	1.25	2.10%	Black, et al., Arch Ped Adoles Med, 2012[23]
10)	HFI + PDS & Caregivers' report of PEDS 1.	2.49	2.26	9.83%	Black, et al., Arch Ped Adoles Med, 2012[23]
11)	HVLFS % Adults' Depression	3.42	2.97	31.69%	Leung, et al., J Nutr, 2015[24]
12)	FI (based on subset of 4 of the 18 USFSSM questions) & failure of children, 3-5 yrs & 11-17 yrs, to receive recommended well-child visits (postponed recommended care)	1.40	1.09	7.44%	Ma, et al., Ambul Pediatr, 2008[25]
13)	FI (based on subset of 4 of the 18 USFSSM questions) & failure of children, 3-5 yrs & 11-17 yrs, to receive needed health care (foregone needed care)	1.61	1.58	17.66%	Ma, et al., Ambul Pediatr, 2008[25]
14)	FI (based on subset of 4 of the 18 USFSSM questions) & failure of children, 3-5 yrs & 11-17 yrs, to receive prescribed medication (foregone needed care)	2.48	2.42	34.07%	Ma, et al., Ambul Pediatr, 2008[25]
15)	FI and iron deficiency in pregnant women ages 13-54 yrs, based on Ferritin <12 ug/L reported in a 24 hr dietary recall and a 30-day supplement question; NHANES 1999-2010.	2.9	2.05	12.90%	Park; Eicher-Miller J Acad Nutr Diet, 2014[26]
16)	FI, based on 1 ad lib question; "When you were growing up, were there times your family didn't have enough to eat?", and Rheumatoid arthritis (self-reported with any current or past DMARD (disease modifying antirheumatic drugs) use and bilateral swelling, or steroid use and bilateral swelling, in the absence of another autoimmune disease), in women 35-74 yrs old.	1.50	1.49	4.33%	Parks, et al., Ann Rheum Dis, 2013[27]
17)	MFS & LDL cholesterol in males & females 18-50 yrs; NHANES 1999-2002	1.85	1.30	3.68%	Tayie; Zizza Prev Med, 2009[28]
18)	MFS & TRG/HDL ratio in males & females 35-50 yrs; NHANES 1999-2002	1.98	1.33	4.05%	Tayie; Zizza Prev Med, 2009[28]
19)	H LFS & Triglycerides in males & females 35-50 yrs; NHANES 1999-2002	1.91	1.31	3.64%	Tayie; Zizza Prev Med, 2009[28]
20)	H Severe FI (6-10 Adult Scale items affirmed) & Diabetes in Adults ages >20 yrs, NHANES 1999-2002.	2.20	1.89	7.89%	Seligman, et al., J Gen Inter Med, 2007[29]
21)	HFI & poor Diabetes Control in adults ages >21 yrs w DM, from clinics in Boston.	1.97	1.40	5.00%	Berkowitz, et al, Diabetes Care, 2014[30]
22)	FI w/o Hunger (HLFS) & Major Depressive Disorder in Women 20-39 yrs old in a subsample of NHANES 1999-2004 receiving MDD measurement.	2.76	2.43	10.32%	Beydoun; Wang J Affect Disord, 2010[31]

	Relationship	AOR*	RR*	AF*	Source
23)	HFI & Birth Defects (NTD, Orofacial Clefts, Conotruncal Heart Defects) in newborns.	1.41	1.12	1.11%	Carmichael, et al., J Nutr, 2007[32]
24)	HFI, SES, & Dental Caries in Children 5-17 yrs in the NHANES, 2007-2008.	2.51	2.01	15.34%	Chi, et al., Am J Public Health, 2014[33]
25)	VLFS & T2D in Latina Women, 35-60 yrs old	3.33	1.61	7.79%	Fitzgerald, et al., Ethn Dis, 2011[34]
26)	MFS & MDE in Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.40	1.32	5.53%	Whitaker, et al., Pediatrics, 2006[35]
27)	FI & MDE in Mothers age >18 yrs in the Fragile Families data, 1998-2000.	2.20	1.88	9.10%	Whitaker, et al., Pediatrics, 2006[35]
28)	MFS & GAD in Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.70	1.66	11.13%	Whitaker, et al., Pediatrics, 2006[35]
29)	FI & GAD in Mothers age >18 yrs in the Fragile Families data, 1998-2000.	2.30	2.20	13.93%	Whitaker, et al., Pediatrics, 2006[35]
30)	MFS & Either MDE or GAD in Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.40	1.32	5.46%	Whitaker, et al., Pediatrics, 2006[35]
31)	FI & Either DME or GAD in Mothers age >18 yrs in the Fragile Families data, 1998-2000.	2.20	1.86	8.70%	Whitaker, et al., Pediatrics, 2006[35]
32)	MFS & Aggression in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.50	1.45	7.53%	Whitaker, et al., Pediatrics, 2006[35]
33)	FI & Aggression in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.90	1.68	8.11%	Whitaker, et al., Pediatrics, 2006[35]
34)	MFS & Anxiety/Depression in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.80	1.68	10.75%	Whitaker, et al., Pediatrics, 2006[35]
35)	FI & Anxiety/Depression in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	2.20	1.99	10.97%	Whitaker, et al., Pediatrics, 2006[35]
36)	MFS & Inattention/Hyperactivity in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.60	1.53	8.89%	Whitaker, et al., Pediatrics, 2006[35]
37)	FI & Inattention/Hyperactivity in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.90	1.77	9.29%	Whitaker, et al., Pediatrics, 2006[35]
38)	MFS & Any of the Three Behavior Problems in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	1.60	1.45	7.12%	Whitaker, et al., Pediatrics, 2006[35]
39)	FI & Any of the Three Behavior Problems in 3-yr-old Children of Mothers age >18 yrs in the Fragile Families data, 1998-2000.	2.10	1.77	8.01%	Whitaker, et al., Pediatrics, 2006[35]
40)	FI & Poor Glycemic Control in Adult Diabetics in the Immigration, Culture & Healthcare Study, San Francisco, CA, 2008-2009.	1.46	1.27	10.17%	Seligman, et al., J Gen Inter Med, 2007[29]
41)	FI & severe obesity in pregnant women ≤400% poverty level in the Pregnancy, Infection, and Nutrition (PIN) cohort in NC, 2001-2005.	2.97	2.07	7.17%	Laraia, et al, J Am Diet Assoc, 2010[36]
42)	HFI and poor glycemic control among diabetics ≥20 yrs old in the NHANES 1999-2008.	1.53	1.42	4.16%	Berkowitz, et al., Diabetes Care, 2013[37]
43)	HFI and poor LDL control among diabetics ≥20 yrs old in the NHANES 1999-2008.	1.86	1.32	2.37%	Berkowitz, et al., Diabetes Care, 2013[37]

*Abbreviations: AOR=Adjusted Odds Ratio; CFI=Child food insecurity; DMARD=Disease modifying antirheumatic drugs; DM=Diabetes mellitus; FI=Food insecurity; HDL=High-density lipoprotein; GAD=Generalized anxiety disorder; HFI=Household food insecurity; HVLFS=Household very low food security; LDL=Low-density lipoprotein; LFS=Low food security; MDD=Major depressive disorder; MDE=Major depressive episode; MFS=Marginal food security, NHANES=National Health and Nutrition Examination Survey; NTD=Neural tube defects; PAF=Population attributable fraction; PEDS=Parents' evaluation of developmental status; PDS=Positive depression screen; RR=Relative risk; SES=Socio-economic status; T2D=Type two diabetes; TRG=Triglycerides; USFSSM=US Food Security Survey Module; VLFS=Very low food security.

Exhibit A2 **Detailed description of costs attributable to food insecurity by condition**

Sources of Costs, 2014 Report	Costs Based on New Evidence ($Billions 2014 Dollars)	Types of Costs, 2010 Report	Costs From 2010 Report ($Billion 2010 Dollars)	Costs From 2010 Report Inflated to 2014 Dollars (% Change in CPI-U for medical care, 1010-2014=9.574%)	NOTE
Cost of additional non-neonatal hospital stays among children ages <18 years	$1.82	Hospitalizations	$16.10	$17.66	(Estimate based on new evidence was used)
Cost of additional hospital stays among adults ages 18+ years	$8.19				
Cost of additional ambulatory visits among people all ages	$1.51				
		Migraine	$2.20	$2.41	
Cost of additional dental care visits among people all ages	$0.79				
		Colds	$0.80	$0.88	
Cost or treatment of mental health problems in children ages <18 years	$1.22				
		Depression	$29.20	$32.03	
Cost of treatment of mental health problems in adults ages 18-64 years	$4.75				
		Anxiety	$17.40	$19.08	
Cost of treatment of anemias and other deficiencies in people all ages	$0.85	Iron Deficiency	$0.50	$0.55	(Estimate based on new evidence was used)
		Suicide	$19.70	$21.61	
Treatment of osteoarthritis and other inflammation in joints among adults	$3.37				
		Upper GI Disorders	$5.70	$6.25	
Treatment of diabetes mellitus in people all ages	$4.90				
		Health Status	$38.90	$42.66	
Treatment of hyperlipidemia	$1.41				
Treatment of endocrine system problems related to poor control of diabetes mellitus	$0.81				
Treatment of congenital defects and complications of pregnancy and birth	$0.06				
Indirect costs of lost work time due to workers' illnesses or workers providing care for sick family members	$5.48				
TOTAL health costs	$35.16			$124.92	$160.07
Expenditures for special education in public primary and secondary education	$5.91	Special Education	$6.40	$7.02	(Estimate based on new evidence was used)
		Dropout due to Retention	$6.00	$6.58	
		Dropout due to Absenteeism	$5.80	$6.36	
TOTAL education & food assistance	$5.91			$12.94	$18.85
TOTAL health, education & food assistance					**$178.92**

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IMPLEMENTATION EVALUATION

Reducing the Intake of Sodium in Community Settings: Evaluation of Year One Activities in the Sodium Reduction in Communities Program, Arkansas, 2016–2017

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PEER REVIEWED

Abstract

Purpose and Objectives
The Centers for Disease Control and Prevention's Sodium Reduction in Communities Program (SRCP) aims to reduce dietary sodium intake through policy, systems, and environmental approaches. The objective of this study was to evaluate and document the progress of the first year of a 5-year SRCP project in northwest Arkansas.

Intervention Approach
In collaboration with 30 partner schools and 5 partner community meals programs, we sought to reduce dietary sodium intake through increased implementation of 1) food service guidelines, 2) procurement practices, 3) food preparation practices, and 4) environmental strategies.

Evaluation Methods
We collected daily menus, information on nutritional content of meals, and procurement records and counted the number of people served in partnering schools and community meals programs. We used a pretest–posttest quantitative evaluation design to analyze changes in the sodium content of meals from baseline to Year 1 follow-up.

Results
From baseline to Year 1 follow-up, participating schools lowered the mean sodium content served per lunch diner from 1,103 mg to 980 mg (−11.2%). The schools also reduced the mean sodium content of entrées offered (ie, entrées listed on the menu) from 674 mg to 625 mg (−7.3%) and entrées served from 615 mg to 589 mg (−4.2%). From baseline to follow-up, participating community meals programs reduced the mean sodium content of meals offered (ie, meals listed on the menu) from 1,710 mg to 1,053 mg (−38.4%). The community meals programs reduced the mean sodium content of meals served from 1,509 mg to 1,258 mg (−16.6%).

Implications for Public Health
In both venues, our evaluation findings showed reductions in sodium served during the 1-year evaluation period. These results highlight the potential effectiveness of sodium reduction interventions focused on food service guidelines, procurement practices, food preparation practices, and environmental strategies for schools and community meals programs.

Introduction

The *2015–2020 Dietary Guidelines for Americans* recommends that daily dietary sodium intake not exceed 2,300 mg for people aged 14 years or older (1). However, people in the United States consume more sodium than is recommended (2–4). Among Americans aged 2 years or older in 2013–2014, males consumed a mean of 3,915 mg of sodium per day, and females consumed 2,920 mg (5).

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Approximately 25% to 30% of US adults have hypertension (6,7). Hypertension is strongly associated with risk for cardiovascular disease (8), the leading cause of death in the US population (6). Consensus on dietary sodium intake is that sustained excessive sodium intake is associated with hypertension and increased risk for cardiovascular disease and that reducing excessive sodium intake has a direct effect of lowering blood pressure (9–14). Across a range of approaches, health impact assessment models consistently predict sizeable health benefits of reduced sodium intake (15). An analysis published in 2017 indicated that a 10% reduction in sodium intake worldwide over 10 years would avoid 5.8 million disability-adjusted life years (16).

The Centers for Disease Control and Prevention (CDC) implemented the Sodium Reduction in Communities Program (SRCP) to achieve the benefits of reduced dietary sodium intake across large populations in the United States by reducing sodium intake to recommended levels (17,18). Program awardees are charged with increasing access to healthy, lower-sodium foods in venues that serve food to relatively large numbers of community members (19). Program activities focus on increasing the number of lower-sodium foods offered rather than restricting food choices. Program venues include correctional facilities, early childhood education centers, institutions of higher learning, hospitals, worksites, and others (18). Each awardee is required to evaluate the effectiveness of the strategies in its targeted venues (19).

Purpose and Objectives

In 2016, the University of Arkansas for Medical Sciences (UAMS) received a 5-year SRCP award to implement sodium reduction strategies in northwest Arkansas in public school cafeterias and in community meals programs (programs that offer free meals to low-income patrons). UAMS and local stakeholders selected these venues because they serve populations in northwest Arkansas at elevated risk for hypertension, namely Pacific Islander, low-income, and food-insecure populations (6,7,20). This project presented a unique opportunity to evaluate the effects of the simultaneous implementation of multiple sodium reduction strategies in 2 venues. The objective of our study was to describe the strategies, intervention, and outcomes during Year 1 of UAMS's SRCP project.

Before applying for an SRCP award, UAMS assembled an internal team of researchers, a registered dietician, policy experts, and staff with experience in implementing health-related interventions in food system venues. UAMS also engaged key stakeholders in northwest Arkansas. These stakeholders represented local community meals programs, school districts, large employers, vendors, community groups, and a center for culinary arts. Stakeholders engaged in quarterly group meetings and monthly one-on-one meetings with UAMS. These meetings focused on discussions about their interest in and capacity to support an SRCP project in various potential venues. UAMS and stakeholders agreed that school districts and community meals programs should be selected as venues.

School districts

The public school districts in northwest Arkansas serve food daily to more than 100,000 students and staff (21). Several school districts were particularly enthusiastic about participating in SRCP because of planned changes to the US Department of Agriculture's (USDA's) school lunch policy. The USDA's proposed standards required schools participating in the National School Lunch Program to comply with reduced sodium standards. For example, standards for high school cafeterias reduced the allowable amount of sodium in lunches from an average of 1,588 mg to 1,420 mg or less in 2014 and — if implemented as scheduled — will further reduce the allowable amount of sodium to 740 mg or less in 2022 (22).

UAMS selected the public school district in Springdale, Arkansas, as the first school district partner for project implementation because of its socioeconomic and health-related challenges. In 2017, Springdale school district cafeterias served more than 24,000 students and staff daily (23). Among Springdale's more than 20,000 students, the prevalence of overweight/obesity was 43% in school year 2016–2017 (24). Many of Springdale's students came from low-income households and were Pacific Islanders; both groups are associated with an increased risk for hypertension (6,7). Approximately 71% received free or reduced-price lunch (25), higher than the prevalence observed in the United States (51.8%) and Arkansas (62.3%) (26). Approximately 13% of the school district's students were Marshallese (Pacific Islander) (27).

Community meals programs

In 2016, northwest Arkansas community meals programs served approximately 4,000 people daily. These community meals programs included free community meals served on site (eg, in soup kitchens) and weekend food bags for children to supplement their weekend meals. These programs were selected because many of their patrons have health challenges associated with food insecurity, homelessness, poverty, and unemployment. Food insecurity and low income are associated with increased risk for hypertension (6,20). Five community meals programs were selected as Year 1 partners for project implementation. These programs were selected on the basis of the following 4 criteria: 1) their reach (ie,

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the programs' self-reported collective reach was ~3,000 meals per day), 2) their diversity of approach (eg, 3 programs served meals on site and 2 programs provided weekend food bags for children), 3) their diversity of location (ie, throughout northwest Arkansas), and 4) their willingness to participate.

Intervention components

Intervention components at each venue were based on increased implementation of 4 broad strategies recommended by SRCP: 1) food service guidelines that discuss sodium, 2) procurement practices to reduce sodium content in foods and ingredients purchased, 3) food preparation practices to reduce sodium content of menu items and meals, and 4) environmental strategies that encourage reductions in dietary sodium intake. The effectiveness of these 4 components was evaluated at each venue according to the following 4 evaluation questions, common to all SRCP projects:

1. How and to what extent have sodium reduction interventions been implemented in specific venues and entities?
2. How and to what extent has the food environment changed since the implementation of sodium reduction interventions, specifically addressing availability of lower-sodium food products?
3. To what extent have lower-sodium food products been purchased or selected by either consumers or larger service providers?
4. What promising and innovative sodium reduction strategies have been found effective that could be replicated by similar communities (28)?

Intervention Approach

Upon notification that UAMS's application was successful, UAMS convened a food policy committee for each venue (Figure). For the school district, the food policy committee consisted of child nutrition administrators, and they scheduled monthly meetings; however, they met 7 times during Year 1. For the community meals programs, the committee consisted of staff responsible for administration, procurement, operations, and food preparation for each program. The community meals committee initially met monthly but then changed to bimonthly after feedback from committee members; they met 10 times during Year 1.

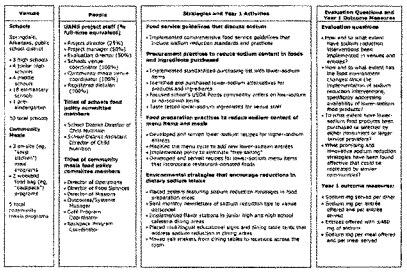

Figure. Overview of implementation of the Sodium Reduction in Communities Program, Arkansas, 2016–2017. Abbreviations: UAMS, University of Arkansas for Medical Sciences.

To prepare for each committee meeting, SRCP staff researched potential implementation strategies, prepared materials, and developed examples of how each venue could implement each of the 4 SRCP strategies. During committee meetings, project staff presented and discussed this information. For example, during an initial meeting with the school food policy committee, project staff proposed options for environmental strategy implementations (eg, hanging posters featuring sodium reduction messages in food preparation areas of school cafeterias, rearranging dipping sauces on the lunch line to make lower sodium options more accessible), and the committee selected the options they wanted to implement. Topics at subsequent food policy meetings included targeting and modifying high-sodium recipes to reduce sodium and identifying educational materials most suitable for each location. All implementation of intervention strategies in both venues resulted from decisions made in committee meetings. In addition, food policy committees could choose to reject, partially implement, or delay activities until Year 2 or later (Table 1).

During food policy committee meetings, project staff discussed implementation challenges and successes, solicited committee's feedback on implementation progress, and collaborated with committee members to identify potential improvements. Project staff aimed to minimize the time and effort required from committee members by limiting meetings to approximately 1 hour.

Intervention activities in the school district

At the project's beginning, UAMS's registered dietitian and other UAMS staff engaged school district personnel in discussions to augment existing school district nutrition policies to include sodi-

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um-focused annual health and nutrition training to all cafeteria staff. This intervention activity provided a policy foundation for other intervention activities. The school district's Child Nutrition Department centrally managed the district's child nutrition policies, procurement, and food preparation practices, so any changes implemented by the Child Nutrition Department would affect almost all food served in the district's 29 cafeterias. One of the district's 30 schools, a stand-alone prekindergarten facility, did not have on-site lunch preparation and was unable to participate in Year 1 activities, although students and staff did have access to lunch prepared at participating schools.

Throughout the year, UAMS staff engaged school district personnel to implement procurement practices to reduce sodium content in foods and ingredients purchased by the school district. The school district personnel involved in implementing these practices included the Child Nutrition Director, Child Nutrition cafeteria managers, and food service staff. Procurement practices to be implemented included 1) developing a standardized purchasing list to increase ordering of lower-sodium items, 2) focusing the school district's USDA Foods commodity orders on low-sodium and no-sodium items, and 3) identifying and purchasing lower-sodium alternatives for products and ingredients. To encourage procurement of lower-sodium foods and ingredients, the UAMS registered dietitian and a registered nutrition and dietetic technician taste-tested lower-sodium recipes with district personnel.

At the same time, UAMS staff worked with school district personnel to implement food preparation practices to reduce sodium content of menu items and meals. Food preparation practices included 1) collaborating with students from a local center for culinary arts to develop lower-sodium recipes for higher-sodium entrées identified by school district personnel and 2) modifying the menu cycle to add new lower-sodium entrées. Entrées were classified by school district personnel as food that met the USDA's definition of "meat/meat alternate" and was served as a main dish (29). UAMS and school district personnel aimed to reduce sodium content of all entrées on the lunch menu to 480 mg or less by Year 5 and adopted the USDA's Smart Snacks in School sodium guideline for entrées as a target (30). In addition, UAMS staff worked with school district personnel to implement environmental strategies that encourage reductions in dietary sodium in school lunches. Environmental strategies included 1) an educational campaign that placed posters featuring sodium reduction messages in dining areas of school cafeterias, 2) an educational campaign that placed posters featuring sodium reduction messages in food preparation areas of school cafeterias, 3) a monthly newsletter of sodium reduction tips sent by UAMS staff to venue personnel, and 4) implementation of flavor stations in junior high school and high school cafeterias, presenting diners with the choice to add a range of low-sodium and no-sodium seasonings to their meals.

Intervention activities in community meals programs

In the community meals programs, intervention activities were similar to activities in the school district. However, in contrast to the centralized organizational structure of the school district, each community meals program had its own organizational structure, policy environment, and operating procedures. To encourage sharing of knowledge among the community meals programs and to facilitate communication between the UAMS team and community meals program staff, representatives from all 5 programs were invited to semi-annual peer learning-exchange meetings hosted at UAMS. These meetings included lower-sodium food preparation demonstrations, lower-sodium product taste-testing (eg, lower-sodium versions of ranch dressings, salsas, and marinara sauces), and data sharing between UAMS staff and community meals program staff.

At the project's beginning, UAMS staff engaged community meals program staff in discussions to either establish nutrition policies or augment existing policies to incorporate food service guidelines that discuss sodium. At each program, the UAMS registered dietitian and other UAMS staff collaborated with community meals program personnel to develop a work plan and comprehensive food service guidelines that include sodium reduction. As with the school district, this intervention activity was intended to provide a unifying rationale for the other intervention activities in the community meals programs.

Throughout the year, UAMS staff engaged community meals program staff to implement procurement practices to reduce sodium content in foods and ingredients. The UAMS registered dietitian and other UAMS staff encouraged personnel at each program to create a standardized food purchasing list, and the UAMS registered dietitian and registered nutrition and dietetic technician identified the most commonly purchased ingredients and presented and taste-tested lower-sodium alternatives with community meals program staff.

UAMS staff also worked with the food service staff (sometimes including food service volunteers) at each community meals program to implement food preparation practices to reduce sodium content of menu items and meals. For example, a policy to eliminate "free salting" (ie, adding unmeasured quantities of salt at the end of meal preparation) was encouraged. Also, after UAMS staff identified that restaurant-donated foods were a primary contribut-

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or to the highest-sodium meals served at the venue, the UAMS registered dietitian worked with community meals program staff to develop recipes for lower-sodium menu items that incorporated restaurant-donated foods (eg, lowering sodium by adding cooked dry black beans and rice to restaurant-donated "chicken burrito bowls"). In addition, UAMS staff worked with community meals program staff to implement environmental strategies that encouraged reductions in dietary sodium in the meals served. Environmental strategies to be implemented included 1) consultation with venue staff to create and place multilingual (ie, English, Marshallese, and Spanish) educational signs and table tents that addressed sodium reduction and health concerns common to patrons and 2) moving salt shakers from the dining tables to a location across the dining room.

Methods

SRCP requires annual evaluation of project progress. To meet this requirement, we used a pretest–posttest quantitative evaluation design at each venue. We selected this design because it facilitated monitoring progress toward project objectives (eg, reduction in community members' sodium intake) at each venue, and it provided standardized quantitative indicators that 1) can be collected repeatedly across the life of the project, 2) were responsive to each evaluation question, and 3) can be aggregated by CDC across projects in its overall evaluation of SRCP. In addition, this approach saved costs by leveraging nutrient data, daily diner counts, procurement records, and daily food production records that the schools were required to collect as part of other regulatory obligations.

We collected data at each venue immediately before intervention implementation and again 10 or 11 months later, minimizing variability due to seasonal factors (eg, seasonal changes in availability of fresh fruits and vegetables). In the school district, we collected baseline data during 2 consecutive weeks of meals in December 2016 and follow-up data during 2 consecutive weeks of meals in October 2017. In the community meals program, we collected baseline data during 4 consecutive weeks of meals in January 2017 and follow-up data during 2 consecutive weeks of meals in October 2017.

We included in evaluation data collection all schools or community meals programs that implemented sodium reduction interventions. The data sources for the schools venue evaluation included annual procurement records, daily food production records, daily counts of people served per school, menu item nutrient reports, and the UAMS team's implementation records. Food production records, counts of people served, and menu item nutrient reports were generated for each school by school district staff using PrimeroEdge school nutrition software (Cybersoft Technologies, Inc) and shared with the UAMS team. Daily sodium information for each menu item at baseline and follow-up was included as part of the menu item nutrient report and was based on USDA's Child Nutrition database (31).

The data sources for the community meals venue evaluation included the UAMS team's implementation records and each program's weekly or monthly procurement records, daily menus, and daily counts of people served. In addition, the UAMS registered dietitian and other UAMS staff visited each program each day it was open during the data collection period, observing and documenting how food was prepared by community meals program staff. The documentation process included recording amounts of each ingredient used (weight or volume, depending on the ingredient and method of preparation), names of all food products used, pictures of food product labels, and menu item serving sizes. The UAMS registered dietitian calculated the daily sodium value for each menu item at baseline and follow-up by entering ingredient and serving size data into Nutritionist Pro software (Axxya Systems, LLC), which hosts a database of nutritional information for more than 80,000 foods.

For the schools venue, we evaluated point-of-service and sodium data from 193,232 diners served during 12 days at 28 schools during baseline data collection. During follow-up data collection, we evaluated point-of-service and sodium data from 173,087 diners served during 10 days at 29 schools. (We excluded 1 school from baseline calculations because of differences in menus, purchasing, and food preparation compared with other cafeterias in the district; at follow-up, the school had standardized its menus to match those of the other schools in the district and was included in follow-up calculations. We excluded the standalone pre-kindergarten site from both baseline and follow-up calculations because it did not have on-site lunch preparation.)

For the community meals venue, we evaluated point-of-service and sodium data from 13,319 meals served to diners during 12 days at all 5 programs during baseline data collection. During follow-up data collection, we evaluated point-of-service and sodium data from 10,136 meals served during 6 days.

We did not conduct power calculations because the evaluation 1) focused on descriptive analyses for outcomes and 2) sampled the entire population of participating entities in each venue. Statistical analyses were conducted in SPSS Statistics version 25 (IBM Corp) and Microsoft Excel version 15.0 (Microsoft Corp). Missing data were minimal, and we did not impute missing values. In the schools venue, data from only 2 (0.3%) of the 626 lunch services

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across the included cafeterias during the data collection periods were not recorded by cafeteria staff. In the community meals venue, no data were missing.

For each venue, we prepared data sets by aggregating all data from each entity without any weighting, allowing calculation of venue-level totals for number of diners served, mg sodium served, number of entrées offered, and other measures. For categorical or count variables, we tabulated venue-level counts and percentages. For continuous variables for which sodium mg was the unit of measure, we tabulated results as venue-level means. For example, in each venue, we calculated mean sodium mg served per diner by dividing the total sodium mg served across all participating entities during the data collection period by the number of diners served across all participating entities during the data collection period.

The evaluation was ruled exempt by UAMS's institutional review board.

Results

Schools venue

Approximately 24,000 diners (~20,000 students and ~4,000 staff members or visitors) were exposed to the sodium reduction intervention in the schools venue daily during the school year. In general, 29 of 30 schools (96.7%) implemented the sodium reduction interventions (Table 2). Across the schools venue, the amount of sodium served per lunch diner during the evaluation period decreased 11.2%, from 1,103 mg at baseline to 980 mg at follow-up (Table 3). The schools also reduced the mean sodium content of entrées offered (ie, entrées listed on the menu) from 674 mg to 625 mg (−7.3%) and entrées served from 615 mg to 589 mg (−4.2%).

The recipes of 7 (2.5%) of the schools' 277 lunch menu items were modified to reduce sodium content. For example, by using no-salt-added tortilla chips in place of regular tortilla chips, the sodium content of the taco salad entrée was reduced from 818 mg at baseline to 543 mg at follow-up, and the sodium content of the cheesy nachos entrée was reduced from 806 mg at baseline to 609 mg at follow-up. Twelve (4.3%) lunch menu items were modified through ingredient or product substitution to reduce sodium content. For example, by replacing breaded pork patties with pork patties made with a whole-grain breading that was lower in sodium, the schools reduced the sodium content of their pork sandwiches from 603 mg at baseline to 203 mg at follow-up.

Community meals venue

Approximately 3,100 unique diners per day were exposed to the sodium reduction intervention in the community meals venue during the year. Adoption of sodium reduction intervention activities varied among sites; only 2 programs implemented standardized purchasing lists with lower sodium items, but all 5 programs received newsletters of sodium reduction tips sent by UAMS (Table 2).

The amount of sodium served per diner during the evaluation period decreased 16.6%, from 1,509 mg to 1,258 mg (Table 3). From baseline to follow-up, participating community meals programs reduced the mean sodium content of meals offered (ie, meals listed on the menu) from 1,710 mg to 1,053 mg (−38.4%). Because each community meals program served identical meals to all of its diners on a given day (ie, did not allow diners choices), the amount of sodium served per diner was equivalent to the mean sodium content of meals served.

The recipes of 6 (4.1%) of the community meals programs' 148 menu items were modified to reduce sodium content. For example, one community meals program replaced canned corn with frozen corn, which reduced the sodium content of the corn from 320 mg per serving (1/2 cup) at baseline to 0 mg per serving at follow-up. Two (1.4%) menu items were modified through ingredient or product substitution to reduce sodium content. For example, one community meals program stopped purchasing ranch salad dressing and began making honey mustard dressing on site. This substitution reduced the sodium content of dressing from 260 mg per serving (2 tablespoons) at baseline to 15 mg per serving at follow-up.

Implications for Public Health

The northwest Arkansas SRCP project intervention yielded reductions in the amount of sodium served per diner during the evaluation period, reducing the amount sodium served to thousands of diners across the year in local schools and community meals programs. These results highlight the potential effectiveness of sodium reduction interventions focused on food service guidelines, procurement practices, food preparation practices, and environmental strategies for schools and community meals programs.

Overall, the evaluation findings address each SRCP evaluation question. Collectively, the findings establish evidence of the effectiveness of SRCP interventions in reducing the amount of sodium served in schools and community meals, contributing to the evidence base established by evaluations of SRCP activities in other venues in other communities (32–34). A key characteristic underlying the effectiveness of SRCP interventions is likely their comprehensive approach to sodium reduction, implicating food service guidelines, procurement practices, food preparation practices, and environmental strategies.

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However, the comprehensive nature of the intervention is also a potential weakness. For example, intervention implementation was time and staff-intensive, relying on technical expertise of registered dietitians and experienced implementation staff, as well as intensive collaboration with venue personnel. Results in one community for one venue may not be easy to replicate in a similar venue in a different community. In addition, the comprehensive nature of the intervention makes it difficult to determine whether certain components of the intervention were more effective or less effective than others.

An additional limitation of the study is the evaluation approach itself. The intensive nature of negotiating access to data, data collection, and data processing for each participating site precluded the use of control groups. The lack of control groups leaves open the possibility of a general trend toward sodium reduction across schools and community meals, whether they had participated in the intervention or not. Similarly, the evaluation focused on measures of food served rather than food consumed. Although our study was designed to evaluate changes in the amount of sodium served to diners, it does not provide precise measures of the amount of sodium consumed or the ratio of sodium served to sodium consumed, which could have varied in unexpected ways from baseline to follow-up. Likewise, the decision to rely on nutrient databases rather than laboratory analysis of foods served raises the possibility of error based on discrepancies between the database entries and what was actually served to diners. However, a strength of the use of nutrient databases was that evaluation results included every food item served, which would have been prohibitively time-consuming and expensive had we used laboratory analysis.

Limitations notwithstanding, our evaluation study sampled the entire population of diners and meals served in participating schools and community meals programs and showed an 11.1% to 16.6% reduction in sodium per diner per school lunch or community meal. These percentages are consistent with health impact assessment models that predict sizeable health benefits of reduced sodium intake (15). These levels of sodium reduction suggest that SR-CP's policy, systems, and environmental approaches to intervention have promise in schools and community meals programs, including those that serve racial/ethnic minority, low-income, and food-insecure populations at risk for hypertension.

Although these initial results are promising, evaluation of Years 2 to 5 of the project will demonstrate whether reduction in daily sodium intake is sustained, is improved, or erodes. In Years 2 to 5, UAMS will implement additional intervention components in both venues to promote even greater sodium reduction. For example, UAMS will implement product placement interventions in school cafeterias, moving unflavored (ie, lower-sodium) milk to the front of beverage coolers. Likewise, UAMS will offer training in knife skills and fruit and vegetable preparation to food service staff in both venues to increase feasibility of incorporating fresh, low-sodium ingredients in meals. In addition, UAMS will seek partnership opportunities to implement sodium reduction interventions with additional school districts and community meals programs and has begun work in a third venue, early childhood nutrition programs operated by the Arkansas Department of Human Services.

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Tables

Table 1. Rejected, Partially Implemented, or Delayed Intervention Activities Presented to the Food Policy Committees at Schools and Community Meals Programs Participating in the Sodium Reduction in Communities Program, Northwest Arkansas, 2016–2017

Intervention Strategies and Activities	Food Policy Committee Decision[a]	Reason for Decision
Schools		
Procurement practices to reduce sodium content		
Form a purchasing cooperative with neighboring school districts to negotiate favorable prices for lower-sodium products and ingredients	Reject	Districts were served by different vendors and had very different menus and student populations
Remove high-sodium items from the menu, including pizza and cookies	Reject	District personnel indicated that these items were popular with students
Food preparation practices to reduce sodium content of menu items and meals		
Implement recipe modifications developed by students at local center for culinary arts	Partially implement	Many proposed recipes were impractical because of expense and number of ingredients and use of uncommon or noncommodity ingredients
Increase use of fresh ingredients (eg, herbs, vegetables) to add flavor in place of salt	Delay	Food preparation staff lacked time to devote to preparing additional fresh ingredients; insufficient number of staff with sufficient knife skills
Environmental strategies that encourage reductions in dietary sodium intake		
Place posters featuring sodium reduction messages in student dining areas of cafeterias	Delay	District personnel wanted to delay implementation to generate student enthusiasm by placing posters at the beginning of a new school year
Re-order list of menu items on digital menus to highlight lower-sodium items	Delay	Staff lacked time and knowledge to reprogram digital signage
Rearrange drinks in coolers to promote lower-sodium options	Delay	Some coolers (eg, those with fixed shelving) could not be reconfigured to highlight lower-sodium options
Purchase and implement upgraded displays (eg, fruit baskets) to promote lower-sodium options	Delay	The 2015–2016 equipment purchasing cycle had ended
Community Meals Programs		
Procurement practices to reduce sodium content		
Reduce the amount of high-sodium–donated restaurant food served	Reject	Community meals programs expressed concern that they could not afford to purchase enough lower-sodium food to replace high-sodium–donated restaurant food
Replace canned vegetables at 1 program with lower-sodium frozen vegetables	Reject	Community meals program indicated it lacked sufficient freezer space (freezer space was filled with donated restaurant food)
Remove donuts from meals at 1 program	Reject	Community meals program indicated that donuts were popular with diners
Implement new lower-sodium recipes	Partially implement	Community meals programs expressed concern about the expense and difficulty of acquiring several lower-sodium ingredients from vendors and stores
Food preparation practices to reduce sodium content of menu items and meals		
Increase use of fresh ingredients (eg, herbs, vegetables) to add flavor in lieu of salt	Delay	Food preparation staff lacked time to devote to preparing additional fresh ingredients; staff lacked consistent access to low-cost fresh ingredients
Replace prepackaged salad dressings with lower-sodium dressing made on site	Reject	One community meals program indicated that salad dressing was often received as a donation, so they did not want to spend budget to make their own

[a] "Reject" indicates that the food policy committee declined to implement the activity. "Partially implement" indicates that the food policy committee implemented some components of the activity but not all. "Delay" indicates that the food policy committee decided to delay implementation of the activity until project Year 2 or later.

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(continued)

Table 1. Rejected, Partially Implemented, or Delayed Intervention Activities Presented to the Food Policy Committees at Schools and Community Meals Programs Participating in the Sodium Reduction in Communities Program, Northwest Arkansas, 2016–2017

Intervention Strategies and Activities	Food Policy Committee Decision[a]	Reason for Decision
Environmental strategies that encourage reductions in dietary sodium intake		
Implement flavor stations in dining areas to replace salt shakers	Reject	Community meals programs expressed concerns about food safety and disruption of the flow of diners through the serving area while using flavor stations

[a] "Reject" indicates that the food policy committee declined to implement the activity. "Partially implement" indicates that the food policy committee implemented some components of the activity but not all. "Delay" indicates that the food policy committee decided to delay implementation of the activity until project Year 2 or later.

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Table 2. Sodium Reduction Intervention Activities Implemented by Schools and Community Meals Programs Participating in the Sodium Reduction in Communities Program, Northwest Arkansas, 2016–2017

Intervention Strategies and Activities	No. (%) at Follow-Up[a]
Schools (n = 30)	
Food service guidelines that discuss sodium	
Implemented comprehensive food service guidelines that include sodium reduction standards and practices	29 (96.7)
Procurement practices to reduce sodium content	
Implemented standardized purchasing lists with lower-sodium items	29 (96.7)
Focused USDA Foods commodity orders on low-sodium or no-sodium items	29 (96.7)
Identified and purchased lower-sodium alternatives for products and ingredients	29 (96.7)
Participated in taste-tests of lower sodium ingredients for program staff	29 (96.7)
Food preparation practices to reduce sodium content of menu items and meals	
Developed and served lower sodium recipes for higher sodium entrées	29 (96.7)
Modified the menu cycle to add new lower sodium entrées	29 (96.7)
Environmental strategies that encourage reductions in dietary sodium intake	
Placed posters featuring sodium reduction messages in food preparation areas	29 (96.7)
Received monthly newsletters of sodium reduction tips sent by UAMS staff	29 (96.7)
Implemented flavor stations in junior high and high school cafeterias	7 (23.3)
Community Meals Programs (n = 5)	
Food service guidelines that discuss sodium	
Implemented comprehensive food service guidelines that include sodium reduction standards and practices	3 (60.0)
Procurement practices to reduce sodium content	
Implemented standardized purchasing lists with lower sodium items	2 (40.0)
Participated in taste-tests of lower sodium ingredients for program staff	4 (80.0)
Food preparation practices to reduce sodium content of menu items and meals	
Implemented policy to eliminate "free salting"	3 (60.0)
Developed and served recipes for lower sodium menu items that incorporate restaurant-donated foods	3 (60.0)
Environmental strategies that encourage reductions in dietary sodium intake	
Placed posters featuring sodium reduction messages in food preparation areas	3 (60.0)
Placed multilingual educational signs and dining table tents that address sodium reduction in dining areas	3 (60.0)
Received monthly newsletters of sodium reduction tips sent by UAMS staff	5 (100.0)
Moved salt shakers away from dining tables to locations across the room	3 (60.0)

Abbreviations: USDA, US Department of Agriculture; UAMS, University of Arkansas for Medical Sciences.
[a] Data were collected at each venue immediately before intervention implementation and again 10 or 11 months later. In the school district, we collected baseline data during 2 consecutive weeks of meals in December 2016 and follow-up data during 2 consecutive weeks of meals in October 2017. In the community meals program, we collected baseline data during 4 consecutive weeks of meals in January 2017 and follow-up data during 2 consecutive weeks of meals in October 2017. At baseline, none of the activities had been implemented at any of the venues.

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Table 3. Baseline and 1-Year Follow-Up Outcome Measures for Sodium Reduction Interventions at Schools and Community Meals Programs Participating in the Sodium Reduction in Communities Program, Northwest Arkansas, 2016–2017

Outcomes	Baseline	Follow-Up	Percentage Change
Schools (n = 30)[a]			
Sodium per entrée offered, mg	674	625	−7.3
Sodium per entrée served, mg	615	589	−4.2
Entrées offered with ≤480 mg of sodium, no. (%)	26 (24.3)	38 (32.8)	+46.2
Sodium served per lunch diner, mg	1,103	980	−11.2
Community meals programs (n = 5)			
Sodium per meal offered, mg	1,710	1,053	−38.4
Sodium per meal served, mg	1,509	1,258	−16.6
Sodium served per diner, mg	1,509	1,258	−16.6

[a] Calculations at baseline and follow-up are based on data from 28 and 29 schools, respectively. One school was excluded at baseline because of differences in menus, purchasing, and food preparation compared with other cafeterias in the district; at follow-up, the school had standardized its menus to match those of the other schools in the district and was included in calculations. A stand-alone prekindergarten site was excluded from both baseline and follow-up calculations because it did not have on-site lunch preparation.

[Additional submission by Chairman Scott follows:]

Research

Original Investigation

Effect of the Healthy Hunger-Free Kids Act on the Nutritional Quality of Meals Selected by Students and School Lunch Participation Rates

Donna B. Johnson, PhD; Mary Podrabsky, MPH; Anita Rocha, MS; Jennifer J. Otten, PhD

Editorial at jamapediatrics.com

IMPORTANCE Effective policies have potential to improve diet and reduce obesity. School food policies reach most children in the United States.

OBJECTIVE To assess the nutritional quality of foods chosen by students and meal participation rates before and after the implementation of new school meal standards authorized through the Healthy Hunger-Free Kids Act.

DESIGN, SETTING, AND PARTICIPANTS This descriptive, longitudinal study examined changes in the nutritional quality of 1 741 630 school meals at 3 middle schools and 3 high schools in an urban school district in Washington state. Seventy two hundred students are enrolled in the district; 54% are eligible for free and reduced-price meals. Student food selection data were collected daily from January 2011 through January 2014 during the 16 months prior to and the 15 months after implementation of the Healthy Hunger-Free Kids Act.

EXPOSURE The Healthy Hunger-Free Kids Act.

MAIN OUTCOMES AND MEASURES Nutritional quality was assessed by calculating monthly mean adequacy ratio and energy density of the foods selected by students each day. Six nutrients were included in the mean adequacy ratio calculations: calcium, vitamin C, vitamin A, iron, fiber, and protein. Monthly school meal participation was calculated as the mean number of daily meals served divided by student enrollment. Mean monthly values of mean adequacy ratio, energy density, and participation were compared before and after policy implementation.

RESULTS After implementation of the Healthy Hunger-Free Kids Act, change was associated with significant improvement in the nutritional quality of foods chosen by students, as measured by increased mean adequacy ratio from a mean of 58.7 (range, 49.6-63.1) prior to policy implementation to 75.6 (range, 68.7-81.8) after policy implementation and decreased energy density from a mean of 1.65 (range, 1.53-1.82) to 1.44 (range, 1.29-1.61), respectively. There was negligible difference in student meal participation following implementation of the new meal standards with 47% meal participation (range, 40.4%-49.5%) meal participation prior to the implemented policy and 46% participation (range, 39.1%-48.2%) afterward.

CONCLUSIONS AND RELEVANCE Food policy in the form of improved nutrition standards was associated with the selection of foods that are higher in nutrients that are of importance in adolescence and lower in energy density. Implementation of the new meal standards was not associated with a negative effect on student meal participation. In this district, meal standards effectively changed the quality of foods selected by children.

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Effective food policy actions are part of a comprehensive approach to improving nutrition environments, defined as those factors that influence food access.[1] Improvements in the nutritional quality of all foods and beverages served and sold in schools have been recommended to protect the nutritional health of children, especially children who live in low-resource communities.[2] As legislated by the US Congress, the 2010 Healthy Hunger-Free Kids Act (HHFKA) updated the meal patterns and nutrition standards for the National School Lunch Program and the School Breakfast Program to align with the 2010 Dietary Guidelines for Americans.[3] The revised standards, which took effect at the beginning of the 2012-2013 school year, increased the availability of whole grains, vegetables, and fruits and specified weekly requirements for beans/peas as well as dark green, red/orange, starchy, and other vegetables. The standards also increased the portion sizes of fruits and vegetables and required students to select at least 1 serving of fruits and/or vegetables.[4] Because the National School Lunch Program reaches more than 31 million students each day in 99% of US public schools and 83% of private schools, the new standards have the potential to significantly and consistently affect the nutritional health of children.[5]

Lifelong dietary patterns and behavioral choices are influenced by environmental factors. School environments are complex, and many factors have an effect on the foods that children eat at school. Such factors include the availability of food and beverages that compete with school meals, the frequency of offering fruit and vegetables at lunch, and the amount of time students have to eat lunch.[6-8] The more an environment consistently promotes healthy behavior, the greater the likelihood that such behavior will occur.[9] The goal of the 2010 HHFKA is to foster a healthy school food environment and promote lifelong healthy eating behaviors among children.[4] Keys to its success include assurance of the provision of healthy food in schools and an environment where healthy food preferences can be learned, expressed, and reassessed.[1]

Prior studies examining changes in children's diets after implementation of the HHFKA have found significant increases in student selection of fruit and consumption of vegetables and entrées as well as significant improvements in both selected and consumed key nutrients, including increases in fiber and reductions in sodium and saturated fat.[10-12]

This study adds to previous work by evaluating detailed changes in energy and nutrient density of the 1 741 630 school lunches selected by students in study schools and daily meal participation rates over a 3-year period that included the implementation of the new school meal standards.

At a Glance

- This study aimed to assess changes in nutrient quality of school meals chosen by students before and after implementation of new meal standards authorized through the Healthy Hunger-Free Kids Act of 2010.
- Nutrient density increased with the new standards as measured by mean adequacy ratio of 58.7 (range, 49.6-63.1) before policy implementation and 75.6 (range, 68.7-81.8) after policy implementation.
- Energy density decreased with the new standards from a mean of 1.65 (range, 1.53-1.82) to 1.44 (range, 1.29-1.61) before and after implementation, respectively.
- School lunch participation did not change following implementation of the new meal standards, with 47% participation (range, 40.4%-49.5%) before the policy was implemented and 46% participation (range, 39.1%-48.2%) afterward.

Methods

Design

For this longitudinal study, school lunch student food selection data were collected daily from January 2011 through January 2014 in the 16 school-year months prior to and the 15 school-year months after implementation of the HHFKA. Only food production records were used to collect these data. These records are normally kept by the district and contain no information about students, therefore, consent was not necessary. Study procedures were approved by the University of Washington institutional review board.

Sample and Setting

This study took place in 3 middle schools and 3 high schools in a large, urban US school district that serves predominantly low-income, racial/ethnic minority students. Within this school district, 28% of students are non-Hispanic white, and 54% are eligible for free and reduced-price meals. The total enrollment of the 6 study schools is approximately 7200.

Measures

Student Food Selection

School food service managers provided researchers with daily food production records based on standardized menus and recipes developed by the district's Nutrition Services Department. Food service managers used order guides for specific foods and recipe ingredients and projected amounts needed based on the anticipated number of servings of each menu item. Foods were distributed to schools from a central facility, and each school had a finishing kitchen where final steps of food preparation took place. Individual school production records documented the number of food items produced (including entrées and side dishes) and the number of servings of each individual food item, such as milk, selected by students at lunch along with the daily reimbursable lunch count. Individual items served at the daily salad bars were ordered in bulk and were not included in the production records. Thus, the nutritional contribution of the self-serve salad bars was estimated through school-level purchase records of the most common specific fruit and vegetable items selected from a common food order guide exclusively for use in the salad bars. Researchers converted purchased amounts to individual portions based on school meal serving size standards. Schools had salad bars both before and after the change in regulations. Salad bar items are listed in the Box.

Box. Salad Bar Food Items

Apple red: fresh whole
Apple: fresh sliced
Bananas: whole
Broccoli florettes
Cabbage: shredded
Carrots: baby
Cauliflower florettes
Celery sticks
Cucumbers: fresh whole
Grapes: seedless red
Kiwi: fresh whole
Lettuce romaine chopped
Lettuce salad mix with cabbage and carrots
Oranges: mandarin canned light syrup
Oranges: fresh whole
Pineapple chunks in juice
Potato salad: bulk
Spinach: cello stemless
Tomatoes: fresh cherry

Each food item on the menu was given a unique code name. Nutritional information for all items served as part of the school lunch program was provided by the district's Nutrition Services Department, using NUTRIKIDS nutrition analysis software (Heartland Payment Systems Inc). Nutritional information for salad bar items was determined using the Food Processor SQL, version 10.9.0 nutrition analysis software (ESHA Research). Spreadsheets with information about individual student food selections from the daily production records and the nutrient content of foods were match-merged on their unique food item codes, forming a single data set.

Dependent Variables: Mean Adequacy Ratio and Energy Density

Mean adequacy ratio (MAR) was computed as the mean of percentage daily value provided in all the foods selected each day, averaged per month for 6 nutrients per 1000 kcal of energy.[13] These nutrients were included in the MAR because they were contained in the NUTRIKIDS analyses provided by the school district, and they represent nutrients of importance for children and adolescents. The 6 nutrients included in the MAR calculation and the daily value of each are as follows: protein, 50 g; vitamin C, 60 g; vitamin A, 5000 IU; calcium, 1000 mg; iron, 18 mg; and dietary fiber, 25 g. This means that if aggregate student choices during months when the foods served had provided nutrients that met or exceeded the recommended levels for these 6 nutrients per 1000 kcal, the MAR would be 100% or more. Energy density (ED) was calculated as available energy divided by the weight (kilocalories per gram) of foods served.[14,15] Foods with a lower ED provide fewer calories per gram than foods higher in ED. In general, foods with lower ED (ie, fruits and vegetables) tend to be foods with either a high water content, high in fiber, or low in fat. Consuming a low-ED diet is associated with reduced energy intake.[16] Because beverages have high water content and tend to have low ED, they may disproportionately influence dietary ED values.[15] For this reason, ED was analyzed without beverages. For each school, the nutritional content of an average school lunch by month was computed using the recorded food items selected by students that month along with the salad bar food portions divided by the number of lunches served.

Student Participation Rates

Participation in the school lunch program was calculated for each month of the study by dividing the mean number of daily meals served each month by student enrollment.

Statistical Analyses

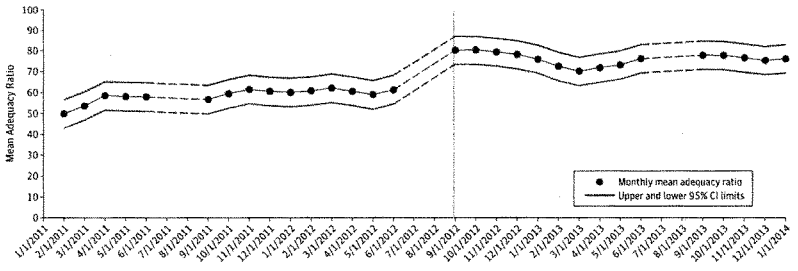
Univariate time series are values of a single measure collected over time. In this study, there were 3 univariate time series that were analyzed separately: 2 nutritional content measures (MAR and ED) and 1 lunch participation measure. Each series was composed of values averaged over each month, for a total of 31 months during which school was in session. Therefore, the time scale for our model was months. Stationarity tests, the white noise test, and the Dickey-Fuller test for unit roots were performed as well as examination of autocorrelation function and partial autocorrelation function plots[17] to help identify appropriately parameterized models for MAR, ED, and lunch participation time series. Because the preliminary examination suggested evidence of nonstationarity and autocorrelation in these series, models were chosen to account for such conditions accordingly. As a consequence, autoregressive integrated moving average models of the first autoregressive order and 1 degree of differencing with constants (autoregressive integrated moving average; 1, 1, 0) were fit to each univariate series. Included in each model was the predictor "policy" intended to account for the effect of a districtwide policy departure after June 2012. This predictor was set to 0 through June 2012 and set to 1 thereafter. All analyses were performed using SAS/STAT software, version 9.3 (SAS Institute Inc).

Results

After implementation of the HHFKA, the change was associated with a significant improvement in the nutritional quality of foods chosen by students, as measured by increased MAR from a mean of 58.7 (range, 49.6-63.1) prior to policy implementation to 75.6 (range, 68.7-81.8) after policy implementation and decreased ED from a mean of 1.65 (range, 1.53-1.82) to 1.44 (range, 1.29-1.61), respectively. There was negligible difference in student meal participation following implementation of the new meal standards, with 47% meal participation (range, 40.4%-49.5%) prior to the implemented policy and 46% participation (range, 39.1%-48.2%) afterward.

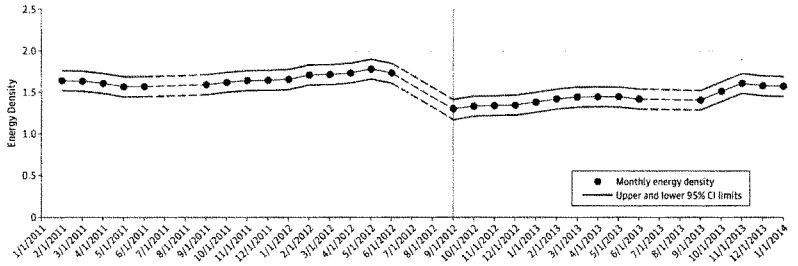
All series demonstrate negative autoregressive 1 estimates, which lend support for their stationary properties. The estimated coefficient for policy was positive and statistically significant (estimated coefficient = 20.18, $P < .001$) for the mean MAR outcome, suggesting a discrete upward shift in

Figure 1. Estimated Mean Monthly Mean Adequacy Ratio Before and After Implementation of New Meal Standards (September 2012)



The vertical dashed line indicates the beginning of the Healthy Hunger-Free Kids Act policy implementation. The dashed horizontal lines between markers represent summer months when no data were collected.

Figure 2. Estimated Mean Monthly Energy Density Before and After Implementation of New Meal Standards (September 2012)



The vertical dashed line indicates the beginning of the Healthy Hunger-Free Kids Act policy implementation. The dashed horizontal lines between markers represent summer months when no data were collected.

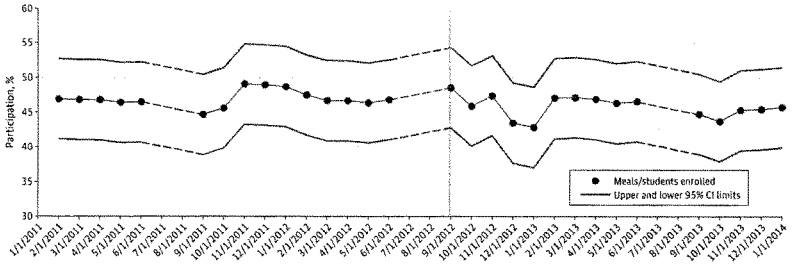
mean MAR following the change in policy (**Figure 1**). On the other hand, the policy coefficient was negative and statistically significant (estimated coefficient = −0.46, $P < .001$) for the ED outcome, suggestive of a down shift in mean ED following the policy implementation (**Figure 2**). The coefficient for policy did not attain the significance threshold (estimated coefficient = −0.05, $P = .10$) for the lunch participation model (**Figure 3**).

Discussion

This longitudinal study in 3 middle schools and 3 high schools in a large, urban US school district in Washington state compared the nutritional quality of student school lunch food selections before and after the implementation of the new National School Lunch Program meal standards. Nutritional quality was calculated using a nutritional index designed to measure nutrients important for children and adolescents (MAR) and a nutritional index designed to measure the calorie content per weight of food (ED). We found that the implementation of the new meal standards was associated with the improved nutritional quality of meals selected by students. These changes appeared to be driven primarily by the increase in variety, portion size, and number of servings of fruits and vegetables. This study also assessed the impact of the new standards on meal participation rates. This issue has been of concern to school administrators and some legislators. Our study found no effect of the new standards on student school lunch participation.

Our findings are consistent with other studies that indicate that the revised school nutrition standards have led to more nutritious school meals, but our study overcomes limitations of previous studies that used cross-sectional data, short study durations, small samples, and surveys.[10-12,18] Unlike other studies, our study included high schools and had the strength of longitudinal food selection data that spanned 31 months and more than 1.7 million reimbursable meals. Many of the previous studies sacrificed sample size to measure not only food se-

Figure 3. Estimated Proportion of Students Participating in School Lunch Before and After Implementation of New Meal Standards (September 2012)



The vertical dashed line indicates the beginning of the Healthy Hunger-Free Kids Act policy implementation. The dashed horizontal lines between markers represent summer months when no data were collected.

lection, but also consumption. Our approach allowed for a larger sample size; the consideration of seasonal changes in menu offerings and available foods; and other factors such as holiday meals, taste tests, and other cafeteria events or promotions that could influence student selection of foods at lunch in the short term. Our study also uniquely used 2 different nutrition indices to measure nutritional quality.

Our study had some limitations. Our sample included only middle schools and high schools and took place in 1 urban school district in Washington state. Therefore, results are not generalizable to rural schools or elementary schools. In addition, while the new National School Lunch Programs regulations affected beverage choices, this could not be reflected in the ED because the high water content disproportionately influences the energy to weight ratio, and beverages are not included in ED calculations. The actual autoregressive integrated moving average model captured increases in ED during the months of November 2013 through January 2014, but it was a limitation of this statistical method that we could not provide a month-to-month comparison. It is worth noting, however, that there seemed to be some seasonality at play. The ED went up during the winter months in both 2013 and 2014, probably reflecting the limited quality and variety of produce that is available during those months.

While data represent foods selected by students, we did not measure consumption. However, the new standards include increases in portions and variety of fruits and vegetables, and the MAR calculation used in this study included nutrients that would be affected by key nutrients provided by these foods, such as vitamin A, vitamin C, and fiber. The increase in MAR of foods selected by students appears to reflect the increased availability of these foods. Research by Wansink and Kim[19] showed that people consume more food when they are given larger portions and greater variety, so it is likely that consumption of nutrient-dense foods increased along with the increase in the amounts of foods served.[20] Recent studies assessing the effect of the new school meal regulations on consumption and food waste have shown increases in fruit, entrée, and vegetable consumption[10,11]; increases in consumption of fiber and reduction in nutrients of concern[12]; and no increase in total food waste.[10,11]

Future work can build on these findings by using similar techniques to evaluate changes over time in the nutritional quality of foods selected by students. It would be beneficial to expand the analysis to nutrient profiling methods that include both desirable nutrients, such the vitamins, minerals, and fiber that were included in the current study, as well as less desirable nutrition components, such as sodium, added sugars, and saturated fats that should be limited in health-promoting diets.[21] A time series analysis of the quality of food selections is a useful approach to measuring sequential policy impacts.

Conclusions

Findings from this study provide further evidence that the new US Department of Agriculture meal standards are addressing key nutritional concerns among adolescents, especially the need for increased consumption of the nutrients in fruits and vegetables and a reduction in ED.

These results contribute to the evidence that significant improvement in the nutrition environments in schools is associated with the enactment and implementation of the new US Department of Agriculture meal standards, with corresponding improvement of student selection of nutritious foods, without negatively affecting meal participation.

The improved US Department of Agriculture meal standards are an example of an effective food policy action. Implementation of the policy was associated with improved school food environments by increasing the nutritional quality of foods served to children. The results support the ongoing implementation of the HHFKA and maintenance of strong nutrition standards during its reauthorization.

The combined effect of the standards along with other initiatives to improve nutrition environments in school settings may enhance attitudes about nutrition and consumption of healthy foods, both inside and outside schools.[1]

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Study concept and design: Johnson, Podrabsky.
Acquisition, analysis, or interpretation of data: All authors.
Drafting of the manuscript: All authors.
Critical revision of the manuscript for important intellectual content: Johnson, Podrabsky, Otten.
Statistical analysis: Rocha.
Obtained funding: Johnson, Podrabsky.
Administrative, technical, or material support: Podrabsky.
Study supervision: Johnson, Podrabsky.

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January 29, 2018

The Honorable Sonny Perdue
Secretary
U.S. Department of Agriculture
1400 Independence Ave., S.W.
Washington, DC 20250

Dear Secretary Perdue:

We respectfully submit this letter in response to the U.S. Department of Agriculture's (USDA) "Child Nutrition Programs: Flexibilities for Milk, Whole Grains, and Sodium Requirements" interim final rule (IFR) (82 FR 56703), and oppose that proposal to weaken school nutrition.

Virtually all schools (99 percent) participating in the National School Lunch and Breakfast Programs are making great progress toward serving healthier meals for low-income children with less sodium; more whole grains, fruits, and vegetables; and no trans fat; and removing sugary drinks and unhealthy snack food.[1] The 2012 updates to school nutrition standards reflect sound science, support children's health, and are consistent with the *2015-2020 Dietary Guidelines for Americans* (DGA)[2] and the National Academies of Science, Engineering, and Medicine (formerly, Institute of Medicine) 2009 report *School Meals: Building Blocks for Healthy Children.*[3]

The Harvard University T.H. Chan School of Public Health concluded that the update to school nutrition standards is "one of the most important national obesity prevention policy achievements in recent decades."[4] Researchers estimate that these improvements prevent more than 2 million cases of childhood obesity and save up to $792 million in health-care related costs over ten years. Improved school nutrition is critical given that one out of three children and adolescents aged 2 to 19 years is overweight or obese[5,6] and children consume one-third to one-half of daily calories during the school day.[7] Contrary to supporting schools and children's health, the proposed changes in the IFR could jeopardize this progress.

We oppose the proposed three-year delay (from School Year 2017-2018 to School Year 2021-2022) of the second sodium reduction targets (Target 2) for school meals that would lock in unsafe levels of sodium for children. Unfortunately, nine out of ten children consume too much

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[1] U.S. Department of Agriculture. *School Meal Certification Data* (as of September 2016). Washington, DC: USDA; 2017.
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[7] U.S. Department of Agriculture. *School Nutrition Dietary Assessment Study-III.* Washington, DC: USDA; 2007.

sodium,[8] increasing their risk of high blood pressure, heart disease, and stroke.[9] Many schools, food service companies, and others in industry are working toward or already providing healthy and appealing meals and products with less sodium. USDA should address remaining challenges through training and technical assistance. Delaying the second phase of sodium reduction puts children's health at risk and would result in children consuming an extra 84 to 98 teaspoons of salt (over the course of the three-year delay).[10] Further, we are opposed to any delay of the third and final phase of sodium reduction for school meals (Target 3 which is supposed to go into effect School Year 2022-2023).

There is no need to continue the whole-grain waivers. USDA concedes in the IFR that 85 percent of schools have not requested waivers and are providing children with appealing whole-grain options. All schools in Alabama, Idaho, and Montana can serve whole grains to their students, so schools in the rest of the states should be able to as well.[11] Eating more whole grains is associated with reduced risk of heart disease, stroke, and diabetes, provides more nutrients, and are a healthful source of fiber.[12] Children, on average, consume too few whole grains and too many refined grains.[13]

We oppose allowing flavored low-fat (1 percent) milk for school meals and as a competitive food. The current standards that allow plain or flavored fat-free milk and plain low-fat milk are based on expert recommendations from the National Academy of Medicine's 2009 report.[14] The recommendations disallowed flavored low-fat milk because it would provide more calories and likely exceed the calorie maximum for school meals. The 2015 DGA similarly recommended, "increasing the proportion of dairy intake that is fat-free or low-fat milk" and "reducing the intake of added sugars" such as those in flavored milk.[15] Similarly, the Robert Wood Johnson Foundation's *Healthier Beverage Guidelines* recommend only plain fat-free and low-fat milk for children and adolescents.[16]

Rather than weakening school nutrition, we urge the administration to support school efforts to continue the progress to improve school food.

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[10] Difference between Target 1 and Target 2 sodium levels: grades k-5: *350 mg/day*; grades 6-8: *390 mg/day*; grades 9-12: *410 mg/day*. Three-year delay is equivalent to mg/day x 185 school days x 3 school years (1 teaspoon = 2,325 mg): grades k-5: *194,250 mg (84 teaspoons)*; grades 6-8: *216,450 mg (93 teaspoons)*; grades 9-12: *227,550 mg (98 teaspoons)*.

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Sincerely,

Alliance for a Healthier Generation
American Cancer Society Cancer Action Network
American College of Preventive Medicine
American Heart Association
American Public Health Association
American School Health Association
Association of State Public Health Nutritionists
Berkeley Media Studies Group
Campaign for a Commercial-Free Childhood
Carly's Wellness Kitchen
Center for Science in the Public Interest
ChangeLab Solutions
Childhood Obesity Prevention Coalition (WA State)
Children's Health and Nutrition Task Force, affiliate of Healthy Adams County
Colorado Children's Campaign
Consumer Federation of America
Eat Smart Move More SC
Edible Schoolyard NYC
Farm to Table New Mexico
Food, Nutrition & Policy Consultants, LLC
FoodCorps
Harvard Law School Food Law and Policy Clinic
Healthy Schools Campaign
Johns Hopkins Center for a Livable Future
Laurie M. Tisch Center for Food, Education & Policy, Teachers College Columbia University
LiveWell Colorado
Maryland Public Health Association
MomsRising
Monona County Public Health
National Association of County and City Health Officials
National Association of Pediatric Nurse Practitioners
National Association of School Nurses
National PTA
National WIC Association
Natural Resources Defense Council
New Mexico Food and Agriculture Policy Council
North American Society for Pediatric Gastroenterology, Hepatology and Nutrition
Northwest Coalition for Responsible Investment
Nutrition Policy Institute
Oral Health America

Orange County Food Access Coalition
Pinnacle Prevention
Prevention Institute
Preventive Cardiovascular Nurses Association
Public Health Advocacy Institute
Public Health Advocates
Public Health Seattle & King County
Real Food for Kids
SHAPE America - Society of Health and Physical Educators
Sisters of St. Francis of Philadelphia
Socially Responsible Investment Coalition
Society for Nutrition Education and Behavior
Tambua Consulting
Trinity Health
Trust for America's Health
UConn Rudd Center for Food Policy and Obesity
University of Chapel Hill Global Food Research Program

[Additional submission by Mr. Thompson follows:]

The Guardian

Dairy food in moderation 'may protect the heart'

Three small portions of dairy a day may actually protect against heart disease and stroke

Sarah Boseley *Health editor*

Tue 11 Sep 2018 18.30 EDT

Dairy products such as cheese and milk have got a bad name because of the saturated fat they contain, but a large new study suggests that in moderation, they may actually protect against heart disease and stroke.

The study was carried out mostly in low and middle-income countries, where less dairy is consumed, but the lead researcher says she believes the findings hold good for those in wealthier countries who avoid dairy, thinking it benefits their health. A moderate amount - three servings a day - can protect the heart rather than damage it, says Dr Mahshid Dehghan from McMaster University, Canada.

"We encourage people who have very low dairy consumption to increase their consumption," she told the Guardian. "Especially in low and middle income countries but also in very high income countries."

The concern over dairy stems from the recognition that saturated fat raises LDL cholesterol levels which are linked to heart disease. But, says Dehghan, dairy also contains nutrients that are good for us, including specific amino acids, unsaturated fats, vitamin K1 and K2, calcium, magnesium and potassium. Rejecting dairy in its totality, says Dehghan, is throwing the baby out with the bathwater.

Eating more than moderate amounts of dairy, however, is not advisable either, say the authors. Over-nutrition is as much of a problem as under-nutrition. Foods containing saturated fats are high in calories, which can lead to obesity and serious consequential health problems.

"We do not encourage people who have six to seven servings a day to increase their consumption," said Dehghan. "The message of the study is moderation."

One serving would be a 244g glass of milk or yoghurt, a 15g slice of cheese or a teaspoon of butter.

The Pure (prospective urban rural epidemiological) study, published in the Lancet medical journal, has its strength in numbers - involving more than 135,000 people in 21 countries across the world from Canada and Sweden to Brazil, Bangladesh and Tanzania. Its weakness is that it is based on food frequency questionnaires. Participants were asked to recount how often they ate different dairy foods which depends on good recall. To overcome this, the study placed its subjects into categories of high, medium and low intake. It followed up their health for around nine years.

It found that people who consumed three servings of milk, cheese or yoghurt a day had lower rates of cardiovascular disease and lower mortality than those who ate less. Butter was not seen to be protective, but most people ate so little butter that the effect was not significant, the paper says. In many of the countries, low fat dairy products were not widely available.

There have been other studies that have suggested dairy can be beneficial to health, say the authors. One that did not was a big piece of research in Sweden, which showed that two or more servings of milk per day was associated with a 32% higher risk of mortality.

"It is noteworthy that in Sweden intake of dairy is markedly higher than in the Pure study and is the third highest in the world," said the authors of the Lancet study.

Other scientists agreed that there was mounting evidence that dairy products had health benefits in moderation. Dr Sarah Berry, senior lecturer in nutritional sciences at King's College London, said the concern about dairy had been the result of the "traditional reductionist and single nutrient, single biomarker approach to making associations between foods and health". It is important to have guidance on the foods we eat, not the individual nutrients we consume, she said.

Professor Ian Givens, of the Institute for Food, Nutrition and Health at the University of Reading, agreed on the need for food-based guidance. "The findings back up other evidence that "there is not one simple relationship between consuming saturated fat and risk of CVD [cardiovascular disease] - the food vehicle delivering the fat can have a key influence. The results of this study suggest that saturated fat from whole-fat milk, yoghurt and hard cheese has very limited if any impact on CVD risk," he said.

Professor Nita Forouhi of the MRC Epidemiology Unit at the University of Cambridge, said the study laid to rest the "widespread misconception" that eating dairy is bad for heart health. "The

key question of whether we should consume low-fat or full-fat dairy is not really fully answered by this research due to low intakes of low-fat dairy in much of the world except Europe and North America," she said. For now, current guidelines should be followed, but the study would open up the debate.

Public Health England said UK guidance would not change. "This study suggests dairy consumption may reduce the risk of cardiovascular disease in low and middle income countries, but this was not the case for those with higher incomes comparable to the UK," said Dr Alison Tedstone, chief nutritionist at PHE.

"Dairy plays a role in a healthy balanced diet, but too much can lead to high levels of saturated fat and salt - the UK's Eatwell Guide recommends choosing lower fat options to help prevent heart disease."

HARVARD T.H. CHAN
SCHOOL OF PUBLIC HEALTH

News

Full-fat dairy may reduce obesity risk

Contrary to current popular wisdom, full-fat dairy products may actually be better than low-fat varieties for keeping off weight, says Harvard School of Public Health (HSPH) nutrition expert Walter Willett. Willett was featured in a February 21, 2014 Q & A in *NewScientist.* According to Willett, who is Fredrick John Stare Professor of Epidemiology and Nutrition and chair of the Department of Nutrition, these findings add to the growing body of evidence that low-fat does not equal weight loss.

The idea that all fats are bad emerged in the 1950s and 1960s when saturated fat was linked to high cholesterol and increased heart disease risk, Willett said. When saturated fat is reduced in products or in people's diets, it is often replaced with sugar or carbohydrates, negating any potential weight loss benefit.

Willett theorizes that full-fat dairy may help control weight because it promotes more of a feeling of satiety than low-fat. Another possibility is that the fatty acids in full-fat dairy may help with weight regulation.

"The picture of dairy foods and health is complicated and deserves further study," he said.

Read *NewScientist* article

Learn more

Calcium and milk: What's best for your bones and health? (HSPH's The Nutrition Source)

MEDICAL NEWS TODAY

Full-fat dairy may actually benefit heart health

By Ana Sandoiu | Published Friday 13 July 2018

Fact checked by Jasmin Collier

Popular belief has it — and even some governmental authorities on nutrition agree — that we should avoid full-fat dairy products due to their high content of saturated fats. But, a new study boldly challenges these claims.

Whole-fat dairy does not raise cardiovascular risk. Conversely, some fats present in certain dairy products might even keep stroke and heart disease at bay.

Full-fat dairy products may actually be good for cardiovascular health.

This is the main takeaway of a recent study led by Dr. Dariush Mozaffarian, from the Friedman School of Nutrition Science and Policy at Tufts University in Boston, MA.

With their findings, Dr. Mozaffarian and team challenge not only popular opinions, but also the stance of governmental organizations such as the United States Department of Agriculture (USDA) and the U.S. Department of Health & Human Services.

The two bodies advise people to avoid full-fat dairy due to its impact on cholesterol levels. The saturated fats found in whole-fat dairy products, warn the USDA, raise levels of low-density lipoprotein (LDL) cholesterol, also known as the "bad" kind of cholesterol.

In time, high LDL cholesterol may lead to cardiovascular conditions such as atherosclerosis or coronary artery disease.

However, the new study turns the idea that full-fat dairy is bad for you on its head. The surprising findings were published in the *American Journal of Clinical Nutrition.*

Marcia Otto, who is an assistant professor in the Department of Epidemiology, Human Genetics, and Environmental Sciences at the University of Texas Health Science Center at Houston, is the first and corresponding author of the paper.

Dairy fat may prevent heart disease, stroke

To study the effect of dairy on mortality risk and cardiovascular health, Dr. Mozaffarian and team examined over 2,900 U.S. seniors, aged 65 and above.

The researchers measured the participants' blood plasma levels of three fatty acids contained by dairy products at the beginning of the study in 1992, 6 years later, and then 13 years later.

Associations with "total mortality, cause-specific mortality, and cardiovascular disease (CVD) risk" were examined.

RELATED ARTICLE

These four foods are proven to lower your cholesterol

During the 22-year follow-up period, 2,428 of the participants died. Of these deaths, 833 were due to heart disease.

However, none of the three fatty acids examined correlated with the risk of total mortality. In fact, high circulating levels of heptadecanoic fatty acid were associated with a *lower* risk of death from heart disease.

Also, adults with higher levels of fatty acids overall were 42 percent less likely to die from stroke, revealed the analysis.

Dietary guidelines should be revised

According to the study's corresponding author, the findings suggest that current dietary guidelines need to be amended.

The 2015–2020 Dietary Guidelines for Americans issued by the Office of Disease Prevention and Health Promotion recommend the consumption of "fat-free and low-fat (1 percent) dairy, including milk, yogurt, cheese, or fortified soy beverages (commonly known as 'soymilk')."

However, Otto disagrees. "Consistent with previous findings," she says, "our results highlight the need to revisit current dietary guidance on whole fat dairy foods, which are rich sources of nutrients such as calcium and potassium."

"These are essential for health not only during childhood but throughout life, particularly also in later years when undernourishment and conditions like osteoporosis are more common," adds the researcher.

> **"[D]airy fat, contrary to popular belief, does not increase [the] risk of heart disease or overall mortality in older adults. In addition [...], the results suggest that one fatty acid present in dairy may lower risk of death from cardiovascular disease, particularly from stroke."**
>
> – Marcia Otto

She adds, "Consumers have been exposed to so much different and conflicting information about diet, particularly in relation to fats," and she highlights the fact that "a growing body of evidence" suggests that dairy fat is actually good for you.

"It's [...] important to have robust studies, so people can make more balanced and informed choices based on scientific fact rather than hearsay," Otto concludes.

[Questions submitted for the record and their responses follow:]

COMMITTEE ON EDUCATION
AND LABOR
U.S. HOUSE OF REPRESENTATIVES
2176 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-6100

March 28, 2019

Ms. Donna Martin, RDN
Director of School Nutrition Programs
Burke County, Georgia Public Schools
789 Burke Veterans Parkway
Waynesboro, GA 30830

Dear Ms. Martin:

I would like to thank you for testifying at the March 12, 2019, Subcommittee on Civil Rights and Human Services hearing on "Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs."

Please find enclosed additional questions submitted by Committee members following the hearing. Please provide a written response no later Wednesday, April 10, 2019, for inclusion in the official hearing record. Your responses should be sent to Alison Hard of the Committee staff. She can be contacted at the main number 202-225-3725 should you have any questions.

We appreciate your time and continued contribution to the work of the Committee.

Sincerely,

ROBERT C. "BOBBY" SCOTT
Chairman

Enclosure

Civil Rights and Human Services Subcommittee Hearing
"Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs"
Tuesday, March 12, 2019
10:15 a.m.

CHAIRMAN ROBERT C. "BOBBY" SCOTT (VA)

1. Ms. Martin, thank you for sharing the story of how you worked with your high school football coach to make sure that student athletes were getting the nutrition they needed to play sports by providing an afterschool meal.
    a. Can you share some other examples of collaboration you've had with teachers, coaches, and other staff in your district?
    b. What do the teachers and staff think of the changes you've made over time to improve the nutrition and quality of the meals you are serving?

CHAIRWOMAN SUZANNE BONAMICI (OR)

1. In my home state of Oregon, the Farm to School Grant Program is popular and has the engagement and investment of the state departments of education and agriculture, state policymakers, and nonprofits. Students get to try local, and sometimes new to them, fruits and vegetables, and they benefit from the educational component of this program. As you testified, Dr. Martin, we also see this program as a "win-win-win" for farmers, kids, and the community. Still, there is more to be done to realize the full benefits that this program offers. Currently, only 28 percent of applicants in Oregon were able to participate in the program. Ms. Martin, please describe the value of farm to school in Burke County, and tell us why there is a need for increased federal support for this program.

REP. DONNA E. SHALALA (FL)

1. Ms. Martin, thanks to Florida's Summer BreakSpot program there are nearly one thousand sites around Miami-Dade County that offer children under 18 free meals throughout the summer.

    However, summer months can still be some of the hungriest months of the year for many kids who come from low-income families. One out of every five kids in Florida is growing up in a family that struggles with hunger. State and federal nutrition programs can help kids get the nutrition they need, but these programs are severely underutilized. Thousands of kids pass the day on a hungry stomach during the so called, "summer meal gap" period, and often go hours without eating a single meal or snack.

    In your testimony you brought up your school district's summer meals program and the critical value it brings to students. Kids tend to lose a lot of the content they've learned during the school year once school is out. This dramatically affects students from lower socio-economic backgrounds.

Knowing that these important programs convert that summer meal gap into a summer boost, can you tell us about the enrichment programs you partner with to provide summer meals? In particular, the Farm to School Program that focuses on fresh fruits and vegetables?

REP. ILAN OMAR (MN)

1. In the 2017-18 school year, more than 600,000 students in Minnesota participated in the National School Lunch Program:
   - More than 200,000 students received a free meal
   - More than 50,000 students received a reduced-price meal

   In the 2017-18 school year, more than 200,000 students in Minnesota participated in the School Breakfast Program
   - More than 100,000 students received a free meal
   - More than 25,000 students received a reduced-price meal

   Thank you, Ms. Martin, for speaking about the benefits of offering free meals to all of your students through the Community Eligibility Provision. I believe it is critical for us as a society to prioritize feeding children – it is fundamental.
   a. Can you tell us more about why you think programs that allow every child access to free meals like Community Eligibility are beneficial?

2. But we need to do more, to ensure that every student, regardless of their parent's socioeconomic status, have access to 3 meals a day, at school, where students spend most of their day.

   I have a bill idea that would expand funding for the School Breakfast Program and the National School Lunch Program, to allow every child access to free meals in school.
   b. Do you believe creating a universal school meal program to allow every child access to free meals would be beneficial?

COMMITTEE ON EDUCATION
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U.S. HOUSE OF REPRESENTATIVES
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WASHINGTON, DC 20515-6100

March 28, 2019

Mr. Eddie Ochoa, M.D.
Associate Professor of Pediatrics
University of Arkansas for Medical Sciences
Community Pediatrics Medical Director
Arkansas Children's Hospital
1 Children's Way, Slot 512-28
Little Rock, AR 72202

Dear Dr. Ochoa:

I would like to thank you for testifying at the March 12, 2019, Subcommittee on Civil Rights and Human Services hearing on "Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs."

Please find enclosed additional questions submitted by Committee members following the hearing. Please provide a written response no later Wednesday, April 10, 2019, for inclusion in the official hearing record. Your responses should be sent to Alison Hard of the Committee staff. She can be contacted at the main number 202-225-3725 should you have any questions.

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Enclosure

Civil Rights and Human Services Subcommittee Hearing
"Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs"
Tuesday, March 12, 2019
10:15 a.m.

CHAIRMAN ROBERT C. "BOBBY" SCOTT (VA)

1. Dr. Ochoa, in your testimony you spoke about how you see both malnutrition and food insecurity and obesity among children.
    a. Can you explain how obesity and food insecurity can go hand in hand?

2. Dr. Ochoa, you spoke about implementing the Child and Adult Care Food Program, or CACFP, in your department at the University of Arkansas Medical Center Head Start and Early Head Start.
    a. Can you discuss how the healthier nutrition standards in CACFP as a result of the Healthy, Hunger-Free Kids Act (HHFKA) are important for young children?
    b. How does CACFP support the early learning goals of programs like Head Start and Early Head Start?

REP. KIM SCHRIER (WA)

1. Dr. Ochoa, you spoke about the importance of relying on the scientific consensus to determine appropriate nutrition standards for child nutrition programs. As a pediatrician with Type 1 Diabetes, it is extremely important to me that kids receive the healthy foods they need to grow, succeed, and be healthy.
    a. Would you describe the process that was used to establish the nutrition standards for school meals following passage of the Healthy, Hunger-Free Kids Act?
    b. Would you discuss why changing those standards, as the Department of Agriculture recently did through rulemaking, may pose a risk to children's health?
    c. Would you discuss your thoughts – particularly related to chronic disease prevention – about changing the standards for milk served to children?
    d. What was the process of how guidelines were reviewed after the Healthy, Hunger Free Kids Act? As researchers continue to conduct health studies, would you recommend this same process be repeated to ensure that nutrition standards are updated appropriately? Are there any changes to the process you might recommend?

REP. DONNA E. SHALALA (FL)

1. Dr. Ochoa, Under Obama-era rules, all breads, cereals and pastas served to schoolchildren had to be at least 50% whole grain. Similar rules focused on lowering sodium intake and increasing fresh fruit and vegetables during lunchtime.

   We know whole grains are rich in fiber and protein, as well as B vitamins and minerals, which are good fuel for your muscles and strengthen your digestive system.

   Interestingly enough, the United States Department of Agriculture's website explains that whole grains are important for helping young, growing minds "feel full longer so they stay alert to concentrate at school."

   Contrary to their own website's explanation however, the USDA now says that feedback from students and schools indicates they're having a hard time finding "the full range of products they need and that their students enjoy in whole grain-rich form."

   Refined grains, which have been stripped of their nutrient-rich outer shells and get turned into sugar, can cause kids to overeat, gain weight, and develop Type II diabetes.

   Dr. Ochoa, in your testimony you spoke about the importance of maintaining high nutrition standards for food served to children. Why is it important to make sure that children are receiving adequate healthy food?

   And in your opinion why is this a misguided approach by the current administration?

Questions for the Record
House Committee on Education and Labor
Subcommittee on Civil Rights and Human Services

"Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs"

Submitted on April 10, 2019

Responses by
Donna S. Martin, EdS, RDN, LD, SNS, FAND
Director School Nutrition Program
Burke County Board of Education
Burke County, Georgia
Immediate Past President, Academy of Nutrition and Dietetics

CHAIRMAN ROBERT C. "BOBBY" SCOTT (VA)

1. Ms. Martin, thank you for sharing the story of how you worked with your high school football coach to make sure that student athletes were getting the nutrition they needed to play sports by providing an afterschool meal.

a. Can you share some other examples of collaboration you've had with teachers, coaches, and other staff in your district?

I have two other examples to share with you of collaboration that I have had within my district. The first example is working with teachers in one of my schools. We order fresh produce from local farmers in the area and they deliver the produce to our kitchens periodically. One day, I went to visit one of the schools and I noticed there were teachers at the back door waiting to speak with the farmers when they arrived. I asked them, "What are y'all doing here?" What I realized was that the teachers were waiting to place personal orders with the farmers to take home for their own use. It was wonderful that they were excited about buying local produce, but we needed to figure out a better system. This led to what became our weekly farmers' market program that was set up in the middle of town so that teachers, parents, and other faculty members could purchase from the farmers. It was a win-win-win because the students saw our teachers buying fresh produce, the parents were purchasing the produce for their families, and the students were being served the fresh produce in the school.

The second example I'd like to share is about our after-school tutoring program. Yes, I worked with the football coach to help his players receive a healthy meal before practice, but the program had a much broader reach. First, we had to think about complying with the CACFP enrichment activity requirement. After-school sports activities alone did not meet the enrichment activity requirement. We came together with teachers, coaches, and the

administration to collaborate on a way to offer supper to all of the sports teams *and* to incentivize all students to stay and receive additional tutoring support if necessary. By setting up tutoring that was available to all students, including student athletes, we were able to provide a supper meal program after school. Both the tutoring and supper program had significant participation from the beginning.

b. What do the teachers and staff think of the changes you've made over time to improve the nutrition and quality of the meals you are serving?

I have a great example to demonstrate what teachers and staff think of the improvements that I've made to the meals over time. There was an assistant principal who was resistant to the changes that I was making in the school meal program. Like I said before, we take our fried chicken and cornbread very seriously in Georgia. This assistant principal was convinced that making healthy changes to some of the students' core meals would result in poor participation in the School Lunch Program. We made the changes gradually and our participation never dropped. After five years of making some of these changes, I saw that same assistant principal while I was visiting the school one day. He called to me down the hall and I immediately thought, "Here we go again." But, what he said to me was that he wanted to let me know how much he appreciated my work to make school meals healthier and that he could see the difference in the students. He even went so far as to tell me that he was inspired by the students and made some significant changes at home to the way he and his family were preparing meals. I was blown away. I take great pride in the fact that I serve the same menu to both students and adults through my cafeterias, and both students and adults love our food--just ask Congressman Allen!

CHAIRWOMAN SUZANNE BONAMICI (OR)

1. In my home state of Oregon, the Farm to School Grant Program is popular and has the engagement and investment of the state departments of education and agriculture, state policymakers, and nonprofits. Students get to try local, and sometimes new to them, fruits and vegetables, and they benefit from the educational component of this program. As you testified, Dr. Martin, we also see this program as a "win-win-win" for farmers, kids, and the community. Still, there is more to be done to realize the full benefits that this program offers. Currently, only 28 percent of applicants in Oregon were able to participate in the program.

Ms. Martin, please describe the value of farm to school in Burke County, and tell us why there is a need for increased federal support for this program.

As a registered dietitian nutritionist, I think Farm to School programming is one of the most important investments our government can make in the health of our children and agricultural community. We know the research says, and this is my very own personal experience too, when kids know where their food comes from and they participate in the hands-on experience of cooking and growing the food, they are more likely to consume it. When kids are exposed to and consume local foods, they demand it. When the demand is high, local farmers have a market. I also believe we need to seriously examine our

contribution to the country's carbon footprint. By purchasing local foods and keeping food systems as local as possible, we can be part of the solution of our global problem. Our farmer population is decreasing. By providing a market for our farmers and exposing our children to farming, we just might be able to increase the chance our students will want to grow up and be farmers. Technically, that one is a win-win-win-win.

REP. DONNA E. SHALALA (FL)

1. Ms. Martin, thanks to Florida's Summer BreakSpot program there are nearly one thousand sites around Miami-Dade County that offer children under 18 free meals throughout the summer.

However, summer months can still be some of the hungriest months of the year for many kids who come from low-income families. One out of every five kids in Florida is growing up in a family that struggles with hunger. State and federal nutrition programs can help kids get the nutrition they need, but these programs are severely underutilized. Thousands of kids pass the day on a hungry stomach during the so called, "summer meal gap" period, and often go hours without eating a single meal or snack. In your testimony you brought up your school district's summer meals program and the critical value it brings to students. Kids tend to lose a lot of the content they've learned during the school year once school is out. This dramatically affects students from lower socio-economic backgrounds.

Knowing that these important programs convert that summer meal gap into a summer boost, can you tell us about the enrichment programs you partner with to provide summer meals? In particular, the Farm to School Program that focuses on fresh fruits and vegetables?

Every year I work with teachers, staff, and community members to identify what programming is occurring throughout the school district. We partner with a large range of programs from summer school to vacation bible school to public library programs to summer sports camps. This community assessment helps me determine staff needs, menus, and delivery schedules. It also helps me determine which areas of our county are underserved and begin to think about how we can get meals out to the children through innovative ideas like our bus program. As for farm to school programming, we always include local products in our menus, such as peaches and blueberries, but we could use more funding to support farm to school nutrition education during the summer months to complement our food service and turn it into a powerful health promotion opportunity.

REP. ILAN OMAR (MN)

1. **In the 2017-18 school year, more than 600,000 students in Minnesota participated in the National School Lunch Program:**

o More than 200,000 students received a free meal

o More than 50,000 students received a reduced-price meal

o More than 100,000 students received a free meal

o More than 25,000 students received a reduced-price meal

In the 2017-18 school year, more than 200,000 students in Minnesota participated in the School Breakfast Program

Thank you, Ms. Martin, for speaking about the benefits of offering free meals to all of your students through the Community Eligibility Provision. I believe it is critical for us as a society to prioritize feeding children – it is fundamental.

a. Can you tell us more about why you think programs that allow every child access to free meals like Community Eligibility are beneficial?

Providing meals for free significantly reduces the administrative burden on my staff. By freeing up time, my staff can really focus on the things that are most important like creating thoughtful menus and providing nutrition education. It also is beneficial for the students. When all children are offered the meal for free, it reduces the stigma that is often associated with receiving free and reduced price meals. This levels the playing field and allows an opportunity for all children to eat and be prepared to learn. It also takes a huge burden off teachers that no longer need to worry if one of their students forgets his or her lunch or lunch money. They don't have to spend time collecting lunch money and applications. Teachers have enough to do in their jobs and my job is to provide them with children well fed and ready to learn.

But we need to do more, to ensure that every student, regardless of their parent's socioeconomic status, have access to 3 meals a day, at school, where students spend most of their day.

I have a bill idea that would expand funding for the School Breakfast Program and the National School Lunch Program, to allow every child access to free meals in school.

b. Do you believe creating a universal school meal program to allow every child access to free meals would be beneficial?

The very simple answer is, "Yes, absolutely!" We give students the tools that they need to be successful: books, transportation, and instructors. Why wouldn't we include the nutrition that EVERY student needs to be ready to learn? I support the idea of universal meals. Research has shown that school meals are healthier than meals brought from home. We need to ensure our next generation is healthier than previous generations. When all students have equal access to healthy meals, then we know all children have equal access to learning and becoming productive citizens. Our children are worth it.

CHILDREN'S HealthWatch

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

April 10, 2019

Subcommittee on Civil Rights and Human Services
Committee on Education and Labor
United States House of Representatives

Dear Honorable Chairman Scott:

Thank you for the opportunity to testify at the March 12, 2019, Subcommittee on Civil Rights and Human Services hearing on "Growing a Healthy Next Generation: Examining Federal Child Nutrition Programs."

I am pleased to have the opportunity to respond to additional questions from members of the committee. Enclosed are my responses to questions from members of the committee for inclusion in the official hearing record.

Sincerely,

Eduardo Ochoa, Jr., MD, FAAP
University of Arkansas for Medical Sciences, Department of Pediatrics
Children's HealthWatch
American Academy of Pediatrics

CHAIRMAN ROBERT C. "BOBBY" SCOTT (VA)

1. Dr. Ochoa, in your testimony you spoke about how you see both malnutrition and food insecurity and obesity among children.
    a. Can you explain how obesity and food insecurity can go hand in hand?

Response: Chairman Scott, thank you for this question and the opportunity to elaborate further.

Childhood obesity is a complex health issue. Most directly, major risk factors include genetics, diet, and physical activity. However, factors beyond the individual level play a large role in disease risk and development. The coupling of genetic characteristics and individual behaviors interact in the context of environmental and structural systems that influence ability to choose foods, neighborhoods, activities, health care, and more to determine an individual's overall risk and subsequent development of childhood obesity.

There is a growing body of research examining associations between food insecurity and obesity. The strongest evidence linking food insecurity and obesity is among women and some evidence of increased risk among adolescents.[1] Research on food insecurity and obesity among children and men, however, is mixed with several studies finding no association between food insecurity and obesity in children and others finding increased or decreased risk of obesity among those experiencing food insecurity.[1,2] While the relationship between the two conditions may seem paradoxical, it is important to understand the nature of food insecurity in the United States. Food insecurity is defined as an inability to afford enough food to live an active, healthy life due to constrained resources. Multiple studies have documented that people in families experiencing food insecurity are economically forced to consume high calorie, low nutrient foods that are cheaper and/or as a response to scarcity they overeat in compensation for periods when food is limited. Experiencing either or both of these influence biological processes that lead to excess weight gain, which is, in turn, linked to obesity.[3,4,5,67] Thus unsurprisingly given this context, studies utilizing nationally representative datasets demonstrate a high prevalence of obesity among youths in low-income households, a strong indicator of food insecurity.[8,9]

Furthermore, families who live in rural or resource-poor areas where access to healthy foods is constrained may also be at risk of having an unhealthy weight status. In these areas and in low-income communities, convenience stores and bodegas, which tend to sell a limited variety of energy-dense but high calorie foods, become the alternative sources of food.[10] As I'm sure you know, these areas are commonly referred to as food deserts. While these foods may provide adequate or even excessive calories and temporarily sustain hunger, a chronic lack of nutritional quality and diversity of foods does not support dietary quality or healthy nutritional status.

As a clinician, I am concerned about unhealthy eating patterns some of my patients' families are forced into as a result of food insecurity. Even though parents try their best to buffer children from the effects of food insecurity by cutting or reducing the quality of their own meals, families experiencing the most severe form of food insecurity– child food insecurity– may have no other options left to them but to cut the quality or quantity of children's meals. In my clinical experience, most of these families cope by cutting the quality of food before the quantity of their children's food in order to prevent their children from feeling the pangs of hunger. In these difficult times, parents often turn to low-cost, high calorie foods that keep children from feeling hunger but whose dietary

quality is poor. When families are forced to repeat this pattern over time, the health and weight status of their children often suffer as a result.

Programs that make nutritious food available in environments where children spend their time, such as child care, preschools, and school nutrition programs, can alleviate some of the family financial burden and make it easier for children to achieve and maintain a healthy weight.[11,12]

2. Dr. Ochoa, you spoke about implementing the Child and Adult Care Food Program, or CACFP, in your department at the University of Arkansas Medical Center Head Start and Early Head Start.
    a. Can you discuss how the healthier nutrition standards in CACFP as a result of the Healthy, Hunger-Free Kids Act (HHFKA) are important for young children?

The healthier nutrition standards in CACFP, informed by the HHFKA, have enhanced the nutritional quality of meals served to young children by increasing the consumption of fruits, vegetables, and whole grains, reducing the consumption of added sugars and saturated fats, and allowing for more nutritious substitutions. This is extremely important for young children, as early nutrition is critical for mental, physical, social, and emotional health, as well as establishing dietary patterns and preferences that can last beyond childhood.[13,14] Based on numerous reports and a review of the literature, the healthier nutrition standards likely maximize positive health and development effects on children served by CACFP, and, for low-income children in particular, mitigate impacts of food insecurity and various nutrition-related outcomes such as overweight or obesity and anemia. [15,16]

Evidence demonstrates that improving the nutritional value of meals and snacks served by CACFP-participating providers could lead to an increase in the overall quality of children's diets. First, by implementing the healthier nutrition standards, providers can expose children to a larger variety of foods and encourage lifelong healthy eating habits.[17] Second, the revisions may curb the amount of *over*consumed macronutrients, (including saturated fat, sodium, and added sugar) that are associated with increased risk of chronic diseases.[14] Third, the revisions may increase consumption of necessary but *under*-consumed nutrients (such as fiber, thiamin, folate, and vitamins A and C) through its emphasis on whole grains, fruits, and vegetables.[15,16] This is extremely important, particularly for young children, given the widely accepted impact of diet on cognitive, behavioral, and physical development.

According to Feeding America's "Map the Meal Gap 2016," the majority of food-insecure children in the US live in households with incomes at or below 185 percent of the federal poverty line.[18] Since this is the same population of children eligible for CACFP, there may be significant overlap between children coming from food-insecure households and those participating in CACFP. Given the cognitive and physical health consequences associated with food insecurity, the healthier nutrition standards in CACFP can reduce the risk of poor health outcomes among vulnerable children, alleviate some of the financial burden of food insecure families, and offer children meals of higher nutritional value and greater variety than caregivers may be able to afford or access.[19,20,21]

Because many participating children can receive the majority of their nutritional intake through CACFP, it is vital that healthy nutrition standards developed by experts are maintained. By doing so, young children, particularly those at the greatest risk for poor nutrition-related health and academic outcomes, have the opportunity to thrive.

a. How does CACFP support the early learning goals of programs like Head Start and Early Head Start?

The Head Start Early Learning Outcomes Framework reflect research-based expectations for learning and development for age birth to 5. These five broad areas of learning include: social and emotional development; language and communication; cognition; and perceptual, motor, and physical development. Focus on these key domains that emerge in the early years of life are essential for school readiness and long-term success and can be influenced by nutrition.[22] CACFP supports these goals by providing nutritionally adequate meals and snacks that promote a child's ability to engage with staff and achieve early learning objectives.

The first few years of life are a crucial period for brain development. During this time of rapid brain growth, a child forms more than 1 million neurons every second.[23] Essential to this formation is nutrition, making healthy meals a critical component of developing cognitive, motor, and socioemotional skills and later achievement.[15,24] In particular, protein, iron, zinc, iodine, and other vitamins impact brain development, all nutrients that the meal plans have been carefully designed by experts to reflect in CACFP meals.[21,25]

Child care, where many children receive the majority of their meals, is an opportune setting to provide children with the nutrition necessary to achieve early learning and developmental goals. Our research shows compared to young children whose parents supplied meals from home, young children whose meals were supplied by the daycare were 33% less likely to be at developmental risk.[26] This may be due to the nutrition standards required in some care settings. By providing healthy meals and snacks in early education and childcare settings, CACFP ensures that children receive the age-appropriate, necessary nutrition to overcome existing nutrition-related deficiencies and developmental barriers, sustain good nutritional status for optimal growth and development, and support early learning goals.

As with many CACFP participants, the families of Head Start and Early Head Start participants have incomes at or below the federal poverty line. Often this means enrolled families struggle financially to provide their children with nutritious meals at home. By providing these meals in the childcare setting rather than requiring families to do so, financial burden can be significantly reduced among caregivers helping them to dedicate resources to other basic needs, and children can receive the appropriate nutrition to which they may otherwise not have access.[27] This again ensures that children are able to receive the nutrition needed to develop a healthy brain and meet early learning objectives, including cognitive, socio-emotional, and motor skills.

CACFP helps millions of young, low-income children meet daily nutritional need during a critical period of childhood. Due to the well-documented role diet plays in cognitive, behavioral, and physical growth, CACFP and other nutrition assistance programs are essential for enabling children to reach their full developmental potential.

REP. KIM SCHRIER (WA)

3. Dr. Ochoa, you spoke about the importance of relying on the scientific consensus to determine appropriate nutrition standards for child nutrition programs. As a pediatrician with

Type 1 Diabetes, it is extremely important to me that kids receive the healthy foods they need to grow, succeed, and be healthy.

a. Would you describe the process that was used to establish the nutrition standards for school meals following passage of the Healthy, Hunger-Free Kids Act?
b. Would you discuss why changing those standards, as the Department of Agriculture recently did through rulemaking, may pose a risk to children's health?
c. Would you discuss your thoughts – particularly related to chronic disease prevention – about changing the standards for milk served to children?
d. What was the process of how guidelines were reviewed after the Healthy, Hunger Free Kids Act? As researchers continue to conduct health studies, would you recommend this same process be repeated to ensure that nutrition standards are updated appropriately? Are there any changes to the process you might recommend?

Response: Congresswoman Schrier, I appreciate your questions and share your concern as a fellow pediatrician on the importance of healthy foods for children.

a. The Healthy, Hunger-Free Kids Act required nutrition standards for foods provided in schools to be updated to comply with recommendations from the Food and Nutrition Board of the National Research Council of the National Academy of Sciences. The Food and Nutrition Board is comprised of experts from a variety of relevant fields and they drew from the most robust and up-to-date science to develop their recommendations. In addition, the recommendations from the National Academy of Sciences focused on aligning school meal standards with the *Dietary Guidelines for all Americans* while also emphasizing imperatives of effective implementation and evaluation.[28]

b. The regulatory changes made to the school meals are misaligned with prevailing nutrition science and, therefore, may pose risks to children's health. Weakening the standards of healthy food like whole grains and delaying and eliminating sodium reduction targets will not only decrease the nutritional value of meals served in schools, but may also place children at increased risk of diet-related diseases. Because many children, especially those from low-income families, consume an estimated half of their calories at school, it is critical that we ensure science-based standards developed by nationally recognized expert scientists in the field for setting nutritional regulations in school meals. Whole grains provide important nutrients for a healthy diet. Data, however, show less than 10% of children – regardless of family income - in the U.S. consume the recommended proportion of whole grains.[29] Reducing whole grains in schools deprives children of the vital nutrients these foods provide. In regard to sodium standards, reducing sodium intake is critical for the health of all children, no matter their family income. Nationally, 9 out of 10 children of all ages and all economic backgrounds in the U.S. consume more than the recommended amount of sodium in the *Dietary Guidelines for Americans* (recommends 1,500-2,300mg of sodium, less than 1 teaspoon).[30] This trend is highly concerning for short- and long-term health. Excessive sodium intake has been linked with elevated blood pressure and obesity among children. [31] These can lead cardiovascular diseases later in life, including heart failure, ischemic stroke, aortic aneurysm, atherosclerosis, or pulmonary embolism. Changing school meals nutrition standards for whole grains and sodium is directly at odds with the scientific evidence and therefore means children are not guaranteed healthful food at school, ultimately placing their health at risk in both the short and long term.

c. With regard to chronic disease prevention and milk standards for children, the Health and Medicine Division (formerly known as the Institute of Medicine) of the National Academies of Sciences and the American Academy of Pediatrics recommend children consume only low-fat, unflavored milk and plain tap water as the ideal beverages for a healthy diet.[32,33] Milk contains important nutrients that are often deficient in the diets of children in the U.S. and therefore is a necessary component of their daily diets after children's first birthday. Therefore, in accord with the *Dietary Guidelines for Americans*, it is important for children to be served only low-fat and non-fat, unflavored milk in order to both ensure they receive the nutrients they need for healthy growth and strong bones without additional fats and sugars that place children at risk of excessive weight gain.

d. As mentioned previously, school meals standards following the Healthy, Hunger-Free Kids Act were set based on recommendations from the National Academies of Sciences. These recommendations were a product of a rigorous review of evidence conducted by an independent committee of experts with diverse perspectives chosen for their content knowledge of this topic. Having served on another review committee for the National Academies (the 2007 committee on Adolescent Health Care Services and Models of Care for Treatment, Prevention, and Healthy Development), I can personally attest to the rigor and unbiased approach taken by these committees. The individuals selected were charged with compiling extensive research findings and ensuring their recommendations meet institutional standards for objectivity, evidence, and responsiveness to their charge.[11] Since the implementation of the nutrition standards, studies have emerged that document the effectiveness of the changes for improving the dietary quality of children's meals.[34,35] As researchers continue to gain knowledge on the role of school meals in children's overall diets and as nutrition scientists continue to refine their understanding of the content of a healthy diet, I think it is critical that nutrition standards for all foods served in schools remain in alignment with the most current and comprehensive evidence as determined by the National Academies of Sciences. It is worth noting, that while it may be tempting to examine the findings of a single study and draw conclusions, this is not the best way to set standards or policies. Instead, it is important to systematically review research that utilizes rigorous methodology in order to draw conclusions and make recommendations that will provide maximum benefits for children. The methodology utilized by the National Academies meets this high standard and, therefore, is the most appropriate strategy for ensuring the nutrition standards for foods served in schools meet the dietary needs of children and improve child health outcomes. I strongly recommend our nation's leaders continue to mandate the alignment of nutrition standards with this rigorous process and the resulting recommendations.

REP. DONNA E. SHALALA (FL)

4. Dr. Ochoa, Under Obama-era rules, all breads, cereals and pastas served to schoolchildren had to be at least 50% whole grain. Similar rules focused on lowering sodium intake and increasing fresh fruit and vegetables during lunchtime. We know whole grains are rich in fiber and protein, as well as B vitamins and minerals, which are good fuel for your muscles and strengthen your digestive system. Interestingly enough, the United States Department of Agriculture's website explains that whole grains are important for helping young, growing minds "feel full longer so they stay alert to concentrate at school." Contrary to their own website's explanation however, the USDA now says that feedback from students and schools indicates they're having a hard time finding "the full range of products they need and that their students enjoy in whole grain-rich form." Refined grains, which have been stripped of their nutrient-rich outer shells and get turned into sugar, can cause kids to overeat, gain weight, and develop Type II diabetes.
    a. Dr. Ochoa, in your testimony you spoke about the importance of maintaining high nutrition standards for food served to children. Why is it important to make sure that children are receiving adequate healthy food?

Response: Thank you for your question, Rep. Shalala. Diet and nutrition are key factors in the health and growth of a child. Research supports that providing children with adequate healthy food in school, where many may receive the majority of their meals, can play a powerful role in promoting immediate and long-term health, productivity, and success.

By maintaining high nutrition standards that provide consistent access to high quality energy, Congress can ensure that children receive the nutrients necessary for healthy growth and development. This is essential for all ages, and particularly in early childhood when individuals experience the most rapid and dramatic postnatal brain development in childhood. [36,23] Later in childhood the importance of well-balanced nutrition remains, as it influences physical, socioemotional, and cognitive growth, academic performance, and maturation.[37,24] Children need healthful meals everyday because the brain cannot store energy; therefore, consistent access to nutrition foods that provide the energy children need to learn, grow, and remain healthy is essential.

Diet also plays a significant role in risk and development of nutrient deficiencies that can lead to later chronic disease. In childhood, poor nutritional status is often reflected as overweight, obesity, or anemia. Currently, one in three US children are overweight or obese, likely in part due to inadequate access or consumption of appropriate healthy meals.[38] Later in life, strong evidence shows that healthy eating patterns in childhood are associated with a reduced risk of cardiovascular disease, type 2 diabetes, overweight and obesity, and some types of cancers.[14,39,40] When meal standards restrict foods and nutrients associated with poor health outcomes (such as saturated fat, sodium, and added sugars), and promote those associated with healthy growth and development (including fruits, vegetables, lean protein, and whole grains), they promote overall child physical and mental health and contribute to disease prevention and weight maintenance.

    a. And in your opinion why is this a misguided approach by the current administration?

Good nutrition is essential to health and health is essential to effective socioemotional well-being and learning. As mentioned previously, ensuring children receive adequate healthy food is extremely important in promoting optimal growth, development, learning, and prevention of chronic disease. There is also growing evidence that unhealthy diets are a risk factor for mental health disorders, particularly depression and anxiety, and that poor nutrition in childhood predisposes children to higher levels of aggression and antisocial behaviors.[41,42,43]

For these reasons, I believe it is vital that we protect the higher nutrition standards recently implemented in child nutrition programs. These standards are in alignment with the most current and comprehensive evidence as determined by the National Academies of Sciences. They include ensuring that all breads, cereals and pastas served in schools be at least 50% whole grain. Whole grains play an especially important role in promoting good health outcomes, as they are packed with key nutrients including fiber, B vitamins, iron, and zinc.[40] While some have expressed concerns in finding whole grain alternatives that students enjoy, I reiterate here that there are a variety of options that schools across the country have employed that meet nutritional standards, keep children full, and are well received.

Along with nutritionists and other experts in the field, the USDA addresses these concerns in multiple reports, including the comprehensive Whole Grain Resource for the National School Lunch and School Breakfast Programs. In this report, the USDA acknowledges that some students may not be familiar with whole grain foods and recommends conducting student taste tests and documenting preferences so that program operators may develop an accurate list of appealing and healthy products for purchase. Additionally, the report recommends incorporating whole grains into options that are already popular, such as pizza, in order to increase acceptability. As you heard during the hearing, there are examples of whole grain foods that have been served with success in a variety of settings when stakeholders work together and taste-test several options to ensure the consumption of these foods by students. My colleague on this panel, Donna Martin, testified specifically to this and other successful strategies she has utilized in Georgia to increase acceptability and enjoyment of tasty foods that meet nutritional standards among students across the state.

The role that nutrition plays in all aspects of immediate and long-term health and development is widely accepted among scholars and health professionals. I am confident that under the guidance of these recommendations and examples from peers, schools will continue to be able to meet the whole-grain rich criteria necessary for a healthy student body.

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[Whereupon, at 11:56 a.m., the subcommittees was adjourned.]

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