Dr Erica Kenney works to help children make healthy choices and form healthy lifetime habits

Dr Erica Kenney is an Assistant Professor of Public Health Nutrition in the Departments of Nutrition and Social and Behavioral Sciences who has been trained in social epidemiology and planned behavior change. Her research focuses on identifying successful, efficient, and cost-effective strategies to modify children’s environments to make the healthiest choice the easiest choice and to help children form healthy habits for life. Dr Kenny does this through conducting both intervention studies and epidemiological studies. Her work is grounded in social ecological theory and the investigation of how children’s environments can be feasibly changed to promote healthy eating habits and less screen time. NutriNews has asked Dr Kenney to discuss some of her current research.

NN: Dr Kenney, I understand that several of your projects have been funded by the Robert Wood Johnson Foundation. Could you tell us a little about the kinds of research you and your team are doing with these grants?

EK: The Robert Wood Johnson Foundation’s Healthy Eating Research (HER) program is a really great resource for folks who are interested in public health nutrition, food policy, nutrition behaviors, the food
environment, and obesity prevention, particularly for children. They have been funding a lot of really innovative work for several years to try to research public health solutions towards improving diet – such as investigating the impact of changing neighborhood food access or changing what children are exposed to in school and child care settings. I am fortunate to have a grant from them right now that is focused on trying to investigate how to improve healthy eating policy implementation. My team is partnering with lawyers at the Public Health Law Center to review all 50 states’ regulations for what providers can feed children in child care settings, and then surveying the actual licensing administrators in each state to ask what they do, if anything, to help child care providers put those regulations into practice. We often say that we need to improve public health policies to change the food environment, which is true – but this study is also trying to look at the next step after changing policies, and see what kind of systems are in place (or need to be built up) to make those policies a reality.

I recently completed a commissioned project with HER also to create an evidence review brief on what we know about early childhood obesity prevention and whether we can identify any interventions in early childhood that are cost-effective. This review was developed with both policymakers and researchers in mind. For policymakers, it highlights where we have some pretty promising evidence of interventions that actually improve children’s nutrition and reduce their risk of excess weight gain at a relatively low cost. There are a lot of public health nutrition interventions and programs out there, but not all of them are effective, and some of them are very expensive, so we wanted to help public health professionals and policymakers find some good value, evidence-based interventions that are going to be good investments for the public. For researchers, it highlights where there are gaps in our knowledge of how to help improve eating habits and prevent obesity among very young children.

I’m also excited to be starting work on two new HER projects being led by my colleagues at the UCONN Rudd Center for Food Policy and Obesity. One is a project on children’s food advertising exposure on digital devices, for which I’ll be a consultant – this is an awesome opportunity because the Rudd Center’s team really leads the field in policy-relevant research on food marketing. Another is a project led by Tania Andreyeva to follow up on some earlier work we partnered on, to conduct a natural experimental evaluation of policy changes to the Child and Adult Care Food Program.

**NN:** You’ve recently published a paper that evaluates changes to the WIC program and resulting policies. What were your some of your findings?
**EK:** WIC is a program that serves lower income pregnant women, infants, and children up to 5 years old by proving benefits to purchase a set list of foods each month that can support healthy child development. These lists were updated in 2009 to take into account more recent dietary science and to try to address childhood obesity – the change wasn’t perfect, but it did result in WIC participants switching from refined grains to whole grains, reducing their juice purchases, and overall reductions in energy intake. And while some surveillance data was suggesting that young children in WIC had lower obesity prevalence, there weren’t any studies that were directly testing to see how much of an impact the 2009 changes might have had in changing obesity risk. We wanted to quantify that, and evaluate whether this big policy change could have had a public health impact for low-income children in WIC, especially since low-income kids are disproportionately more likely to have obesity and poor diet, and we really need to identify what can work on a large scale to help them. What my co-authors and I did was to take WIC’s administrative data, which is publicly available, and look at time trends in obesity prevalence for young children in WIC both before and after 2009, to see whether there were any changes in the trend in obesity prevalence that could be at least partly attributable to the change in the WIC approved foods, using an interrupted time series analytic design. We found that, prior to 2009, obesity risk among WIC-participating children had been steadily increasing year after year – but after the package changes went into effect, this trend basically was completely reversed. We considered alternative explanations for such a large, population-wide shift and found no plausible one. So it’s certainly not a study with definitive evidence for causation – but it is promising.

**NN:** How would you say that your work differs from most of the rest of our Nutrition faculty?

**EK:** My hope is to try to take the work of my colleagues in nutritional epidemiology and biochemistry that identifies what a healthy diet should include and try to develop evidence on how we can make those dietary best practices a reality in people’s lives – whether it’s through community action to change food environments, policies to change what foods are offered and available to children, or finding behavioral strategies to help make healthy choices easy and desirable.

**NN:** I see you’ve also published two papers on the water quality in public schools this year? What did you and your colleagues conclude?

**EK:** We published two very different studies about school water access, yes. One was looking at the cost-effectiveness of putting water as a beverage on the school lunch line in public schools as an obesity prevention intervention. There is some evidence from the New York City public schools that increasing drinking water access in this way (instead of, say, just putting in more drinking water fountains in the hall) can help kids switch from sugary drinks to water, and this reduces the risk of obesity very slightly across the population. It’s not a huge effect, but we also found that the intervention does not cost very much either, so we modeled out that if schools nationwide were to do this, it would probably be a fairly cost-effective strategy and could prevent some cases of childhood obesity (but would need to be paired with other interventions if we want to have a bigger impact). The other was a very small study in partnership with the Boston Public Schools to evaluate students’ and teachers’ perceptions of school drinking water quality. BPS has had many, many challenges over the years with aging school infrastructure and lead in their drinking water, and was one of the first districts to really take on this issue directly – they shut off most of their tap water drinking sources in the 1980s. They’ve been providing bottled water in most schools since then, but have been trying to also update infrastructure and bring schools back to tap water as well. Since more and more districts have been realizing they also have lead issues in recent years, since the Flint water crisis, and going through similar switches away from tap water, we wanted to do a really in-depth study to see what some of the pros and cons have been to Boston’s approaches over time, as other schools are considering what to do and Boston has already “been there.” We also wanted to help the district understand what students and teachers were thinking about the water, what water access is looking like at the moment, and hope that this could help tailor their efforts moving forward. So we conducted a mixed-methods study that combined quantitative data on students’ water intake that we gathered through direct observation methods with quantitative and qualitative data about their perceptions of water quality from focus groups and surveys. We found that simply switching from tap to bottled water is probably not a tenable long-term solution for school districts – providing bottled water has its own host of problems that contribute to limited access and poor perceived quality. A strong effort to renovate tap water infrastructure, update the fixtures (so bottle fillers
are available, not just old-fashioned fountains), ensure access where meals are eaten, and carefully address community misgivings about the water safety is going to be needed.

Dr Kenney takes some time out to spend with her family

**NN:** In addition to your research, what courses are you currently teaching here?

**EK:** Right now I am working with Dr Juliana Cohen and Stef Dean to update NUT 232, which is a course focusing on developing and evaluation public health nutrition interventions that had been developed by Dr Kirsten Davison. We’re expanding the course to help address some of the core requirements for the new MPH program and we’ll be teaching this in Fall 2020.

**NN:** You are also the Director of our Department’s new MPH program, aren’t you? Could you please tell us a bit about this new program and your role as Director?

**EK:** The MPH program is so exciting – we are now one semester into our first year of this program, and have an incredible inaugural cohort of MPH students. Our students have a wide range of interests and backgrounds. I’m so excited that the department will be helping to train students and prepare them to be public health professionals that will be working to promote better nutrition in various ways – from improving baby foods to exploring culinary public health approaches.

**NN:** What are some of the new projects that you’re working on right now?

**EK:** Right now my team and I, including one of my advisees, Mary Kathryn Poole, are working on collecting data on what children are eating at child care centers in Boston as part of a pre-/post-evaluation of a community intervention that my partners at the Boston Public Health Commission are conducting. We’re hoping to see whether their efforts to support child care providers in serving healthier meals translates to real improvements in children’s dietary intake.

I’m also fortunate to be helping out on a project of Dr Eric Rimm’s that focuses on WIC and is in partnership with the MA State WIC Office – my role is to help support some of our amazing doctoral students, including Cris Gago, in conducting focus groups with parents of WIC children to understand if there are ways to help keep people from dropping out of the program early. This is really fun as it can hopefully support some of the “big data’ analysis that Eric will be leading to try to see if there are demographic or neighborhood patterns and predictors of early dropout.

I am leading a very small study to conduct some interviews with high school students about body image and weight stigma, and how their school environment impacts those experiences. And then I am continuing to conduct some cost-effectiveness analyses of different early childhood nutrition policies and using some secondary datasets to take a look at how children’ develop healthy eating habits and whether there are policies that can support that.

**NN:** Do you have any short-range future goals you’d like to tell us about?

**EK:** Sleep!
Nutrition students Mary Kathryn Poole and Latifat Okara make important contributions to Dr Erica Kenney’s research

Mary Kathryn Poole  
Doctoral Student and Research Assistant

Dr Kenney is currently leading an innovative research project to explore whether states in the U.S. include nutrition, physical activity and screen time provisions, as well as the quality of these provisions, in their child care licensing regulations. Many young children spend much of their day in child care, so it is important that these settings support healthy habits, particularly during such a critical period of development. As one of Dr Kenney’s research assistants for this project, I’ve assisted with developing surveys for state agencies about their child care regulations, comparing state regulations to a set of "best practice" healthy standards, and assessing the types of educational and training resources available to child care providers for nutrition, physical activity and screen time. I’ve enjoyed learning about how states across the country are incorporating healthy policies into their regulations. This project has also reinforced for me the opportunity for collaboration between nutrition researchers and government agencies in developing healthy policies. Additionally, it is important to translate nutrition recommendations into policies/strategies that can be easily adopted by non-nutrition professionals, like child care providers. I look forward to seeing the results of Dr Kenney’s study which will provide valuable contributions to child care nutrition policy research and practice.

Latifat Okara  
PHN Student and Research Assistant

My work with Dr Kenney has been very intriguing. It examines advertising practices to which young children are exposed when playing with mobile and interactive media, which has become progressively prevalent over the past decade. It aims to determine the relationship between advertising and unhealthy food preferences among 2-5-year-old children. My work involves monitoring and documenting measures of exposure to food advertising on mobile devices, reviewing games, apps and YouTube channels that are targeted to children, to get a sense of what kinds of advertisements for foods and beverages children are exposed to on tablets and smartphones. Using a Digital Ad Coding Sheet, I track what advertisements pop up, and what the nutritional quality of any food/beverage advert is. Daily review of 29 apps and 25 most-watch YouTube channels tagged for kids contained at least one type of advertising. Adverts on the apps included full-app teasers, pop-ups to unlock play items or in-app purchases. On the other hand, YouTube channels contained a variety of food/beverage adverts occurring within at least 20 minutes of watching each video. This exploratory screen-time project has been very beneficial for me; it aligns perfectly with my interest in infant nutrition, it has strengthened my research and time management skills, and spurred me to look beyond the familiar drivers of unhealthy diets such as income, cost, and access, to this often undermined, yet essential determinant of nutrition behaviors and obesity risk in children. I am optimistic that more research in this direction will instigate public attention, and potentially demand policymakers, parents, and caregivers to make strategic behavior change.
NEWS FROM AROUND THE NUTRITION DEPARTMENT

AWARDS AND HONORS

Brett Otis, Nutrition Communications - Coordinator Strategist, received the Harvard TH Chan School’s 2020 Winter ACE Award- Acknowledging Commitment and Excellence. Brett has worked closely with Dr Lilian Cheung, Lecturer, to continue and further the important mission of the Nutrition Source Website. Additionally, he oversees various aspects of communications for the department and recently organized the Red Meat, Meat Alternatives & Beyond symposium. He received the award because his dedication, hard work, and commitment to excellence is evident in all that he does.

Brett Otis (center) celebrates his 2020 Winter ACE Award with Jessica Powell, Patrice Brown, Dr Lilian Cheung, Dr Frank Hu, Dr Anne Lusk, and Katrina Soriano
Photo courtesy of Ilia Maldonado

NEW PUBLICATIONS

Amélie Keller, Visiting Scientist, and several colleagues from the Department of Nutrition have published a paper in Preventive Medicine. The authors’ key findings were that higher consumption of sugar-sweetened (SSB) beverages is associated with greater risk of coronary events; replacing SSBs with artificially-sweetened beverages decreases the risk of developing coronary events; and replacing SSBs by coffee also decreases the risk of developing coronary events.


Dr Christopher Golden, Assistant Professor, Departments of Nutrition, Environmental Health, and Global Health and Population, has co-authored an article in Nature Climate Change entitled “The fate of Madagascar’s rainforest habitat” in which the authors demonstrated through decades of research that the suitable rainforest habitat could be reduced by 29–59% from deforestation, 14–75% from climate change or 38–93% from both by 2070. These types of changes will be massively disruptive to maintaining ecological biodiversity and current food system functioning.

Drs Frank Qian, research assistant, and Frank Hu, Professor and Chair, recently published a paper in *Diabetes Care* in which they delved deeper into why they believe the previous red meat guidelines published in *Annals of Internal Medicine* last October had serious limitations.


Simone Passarelli, doctoral student, published a paper on aflatoxin exposure *in utero* and birth and growth outcomes in Tanzania. Previous research has suggested that aflatoxin exposure may contribute to growth faltering among children in low-income settings. The authors analyzed serum samples from 400 pregnant women from Dar es Salaam, Tanzania to observe the relationship between levels of aflatoxin exposure *in utero* and subsequent maternal and child growth outcomes, and did not observe a relationship between aflatoxin levels and growth. Aflatoxin exposure had a small, statistically significant negative association with gestational age at birth.


**NEW GRANTS**

Dr Christopher Golden is PI of a new grant from the National Science Foundation’s National Socio-Environmental Synthesis Center entitled “Climate-related natural disasters and human health." Throughout the course of the project, we will be synthesizing existing databases to understand the current health impacts of climate-related natural disasters in five candidate countries, including Madagascar, Papua New Guinea, and Burkina Faso.

New Faces in the Department!

Yulan Lin
*Visiting Scientist*

Dr Yulan Lin joined the Department as a Visiting Scientist on January 6th. Her mentor is Dr Edward Giovannucci. She received her Masters and PhD degrees in Public Health Nutrition/ Cancer Epidemiology at Karolinska Institutet of Sweden during 2008-2013. Yulan took her postdoc training at Norwegian University of Science and Technology during 2014-2017. She is currently working at the School of Public Health of Fujian Medical University in Southeastern China. Her main research interests are the cancer etiology and prevention, cancer prognosis, and pharmacoepidemiology of GI cancer. During her stay in our
Department of Nutrition, she will work on dietary factors, medication use, and their links to risk and prognosis of colorectal cancer and Barrett’s Esophagus.

Dr Lin has a broad interest in sports and outdoor activities. She used to play basketball on a university team in China, and also participated in heptathlon competition representing her university. She also loves travelling and has been to more than 20 countries. During her 8-year stay in a Nordic country, although she failed to learn how to ski, she remains confident that she has strengthened her enzymes in alcohol metabolism significantly. Yulan is very much looking forward to working and collaborating with colleagues in the Nutrition Department!

Olivia Stoddard
Research Assistant

Olivia is excited to be joining the Department of Nutrition as a Research Assistant on the Nurses' Health 3 Study with Dr Jorge Chavarro. She graduated from UMass Amherst in 2018 where she studied public health and environmental science. Prior to joining the Department, she worked as a Project Coordinator at the Brigham Research Institute. She is broadly interested in environmental changes' impact on health and is looking forward to working on a study that will support this important research area. In her free time, Olivia enjoys hiking, reading, and leisurely painting.

Daniel Viana
Postdoctoral Fellow

Daniel Viana has jointed Dr Christopher Golden’s, Assistant Professor of Nutrition and Planetary Health, group. Dr Viana is a graduate of the University of California- Santa Barbara where he studied the human impacts of marine reserve design and fisheries management. Daniel will be leading the analysis of a new 2-year research program assessing the global human nutritional impact of 421 marine protected areas from more than 80 countries. He has an extensive background in social-ecological modeling, and extensive grounded research from his home country of Brazil that he will be bringing to bear on the project. He will be starting on February 1st and is new to the Boston area. Please say hello to him!

Martha Tamez
Postdoctoral Fellow

Martha Tamez will continue working with Dr Josiemer Mattei, Donald and Sue Pritzker Associate Professor of Nutrition, as a postdoctoral fellow in the Nutrition Department. Her doctoral dissertation focused on a traditional Mexican diet score, other diet quality scores, and risk of hypertension among Mexican-Americans. Dr. Tamez will continue focusing on diet and cardiovascular disease-related outcomes among Hispanics/Latinos. During her free time, Martha enjoys growing and harvesting seasonal fruits and vegetables at the Fenway Garden Society.
Tatiana S Collese
Visiting Graduate Student

Tatiana S. Collese is a Nutritionist from Brazil. She graduated from Centro Universitario São Camilo, and received her Master's degree in the Department of Preventive Medicine at the University of São Paulo, Medical School (FMUSP). She is currently completing her PhD in the same Department (FMUSP). She worked on multicenter studies in Europe, such as the "I Family Study", and in South America, such as the "SAYCARE Study", both of them regarding children’s health. Tatiana is working on a project at the Harvard Chan School of Public Health, Department of Nutrition, under the supervision of Dr Edward Giovannucci, Professor of Nutrition and Epidemiology. This project is a systematic review that aims to identify blood vitamin A concentrations for determining vitamin A deficiency in children. Her goal is to find behaviors that can be incorporated into children’s routines in a practical and fun way, to enable healthy environments for appropriate childhood growth and development, mainly in low- and middle-income countries. Besides her passion for nutrition and kids, Tatiana also loves to be out in nature doing outdoor activities like yoga, dancing, running, swimming... Especially if it is on the beach on a sunny day. You can reach her at tcollese@hsph.harvard.edu

MONDAY NUTRITION SEMINARS

The Department of Nutrition holds its weekly Monday Nutrition Seminar Series every Monday throughout the academic year. The talks are varied, but they highlight the many different aspects of cutting-edge research that is currently being conducted in the fields of nutrition and global public health. These seminars are held from 1:00-1:20 pm in Kresge 502 at the Harvard T.H. Chan School of Public Health. The seminars are free and open to the public.

The following speakers will present their work in December:

Feb 3: Dr Jacqueline Lauer, Research Fellow in Pediatrics, HMS – "Environmental Enteric Dysfunction and Poor Growth Outcomes" – NGHP.

Feb 10: Dr Anastassios G. Pittas, MD, MS, Professor of Medicine, Division of Endocrinology, Diabetes & Metabolism, Tufts Medical Center – "Vitamin D for Diabetes: To D or not to D?"

Feb 17: PRESIDENT’S DAY—NO MONDAY NUTRITION SEMINAR

Feb 24: Dr Aurelijus Veryga, MD, PhD, Lithuania Minister of Health, Republic of Lithuania Ministry of Health; and Dr Tomas Vaiciunas, Director of the Lifestyle Medicine Masters Curriculum at Kaunas University SPH – "Public Health as Health Policy Priority".

For more information, contact: hfarmer@hsph.harvard.edu

New Faculty Appointments

Dr Jun Li has been appointed as Research Scientist.
Acquiring healthy lifestyle habits in middle age may increase number of years lived free of chronic diseases

According to a new study published online January 8, 2020 in *BMJ*, maintaining five healthy lifestyle habits could increase the number of years lived free of chronic diseases. Researchers found that incidents of type 2 diabetes, cardiovascular disease, and cancer decrease when people eat a healthy diet, exercise regularly, keep a healthy body weight, do not drink too much alcohol, and do not smoke.

According to first author Dr Yanping Li, Senior Research Scientist, “Previous studies have found that following a healthy lifestyle improves overall life expectancy and reduces risk of chronic diseases such as diabetes, cardiovascular disease, and cancer, but few studies have looked at the effects of lifestyle factors on life expectancy free from such diseases. This study provides strong evidence that following a healthy lifestyle can substantially extend the years a person lives disease-free.”

Data from the Nurses’ Health Study and the Health Professionals Follow-up Study were examined. Li and colleagues found that those women who practiced four or five of the healthy habits at age 50 lived an average of 34.4 more years free of diabetes, cardiovascular diseases, and cancer, compared to 23.7 healthy years among women who practiced none of these healthy habits. Similarly, men lived 31.1 years free of chronic disease, compared to 23.5 years among men who practiced none. Men and women with obesity and men who were current heavy smokers had the lowest disease-free life expectancy.

According to senior author Dr Frank Hu, Fredrick J. Stare Professor of Nutrition and Epidemiology and Chair, Department of Nutrition, “Given the high cost of chronic disease treatment, public policies to promote a healthy lifestyle by improving food and physical environments would help to reduce health care costs and improve quality of life.”


Risk of premature death may be reduced by healthy low-carbohydrate and low-fat diets

According to a new study led by Dr Zhilei Shan, a postdoctoral researcher in the Department of Nutrition, choosing healthy foods when eating a low-carbohydrate, low-fat diet (LCD or LFD) is key to reducing the risk of premature death. The study found that those people who ate healthy versions of the diets (such as whole grains, non-starchy vegetables, nuts, and whole fruits) had a lower risk of premature death compared to people who did not follow either diet. However, those people who ate unhealthy LCDs or LFDs, including high amounts of low-quality carbohydrates, saturated fat, and animal protein, had a higher risk of premature death compared to people who didn’t follow those diets.

Shan stated that “Our findings show clearly that the quality rather than the quantity of macronutrients in our diet has an important impact on our health. The debate on the health consequences of LCDs or LFDs is largely moot unless the food sources of fats or carbohydrates are clearly defined.”
Previous research has shown varying effects on disease risk and health caused by different types of carbohydrates and fats. The current study is the first known investigation of associations between LCDs and LFDs and mortality that considers macronutrient quality.


To read more: https://www.hsph.harvard.edu/news/features/lowfat-lowcarb-diet-premature-death/

Visit the Harvard Chan School website for the latest news, press releases, and multimedia offerings.

Dr Martha F Trulson's Official Photograph Added to Nutrition Library Photo Gallery

The Department of Nutrition will be adding Dr Martha F Trulson’s portrait to the Nutrition Library to honor her role as the first female faculty member in the department. Dr Trulson was born in Stoughton, Wisconsin on July 23, 1907. She received her PhD from the University of Wisconsin and was recruited by Dr Fredrick Stare, first Department Chair, to the Harvard School of Public Health’s Department of Nutrition where she rose to rank of Associate Professor. Throughout her time in the department she published regularly and worked closely with the department’s founding members, Frederick Stare, Mark Hegsted, Robert Geyer, Stanley Gershoff, and Jean Mayer. In 1962, she developed the foundational food frequency questionnaire (FFQ) to measure long-term dietary intake in studies with large groups of people. The model she developed is still the basis for the FFQ used today. She died in 1965 at the age of 58. The fact that she was chronically ill before her death most likely contributed to her not being promoted to full professor. After her death the American Dietetic Association held a memorial lecture series in her honor. Materials from the lecture series recall that Martha was a vital and exceptional person. “Martha Trulson cared about people, students, faculty, and all with whom she came into contact. This combined with an honesty, directness, outspokenness, and intolerance of pretentiousness or pomposity of any kind was refreshing and sometimes devastating.”
Lectins
Lectins are an “anti-nutrient” that have received much attention due to popular media and fad diet books citing lectins as a major cause for obesity, chronic inflammation, and autoimmune diseases. Is there truth behind these claims?
https://www.hsph.harvard.edu/nutritionsource/anti-nutrients/lectins/

Re-thinking your New Year’s resolutions
This year, resolve to nourish both your body and mind with each meal by slowing down, paying attention, and truly savoring your food. https://www.hsph.harvard.edu/nutritionsource/2013/12/20/re-thinking-your-new-years-resolutions/

If you would like to remain current as to what is happening in the field of nutrition, please be sure to view our Nutrition Source website for the latest updates!
(See: https://www.hsph.harvard.edu/nutritionsource/)