

NUTRI NEWS

The Department of Nutrition

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POSTDOC STACY BLONDIN AND 4 HARVARD UNDERGRADS INVESTIGATE COVID-19 IMPACT ON FOOD INSECURITY

This summer, **Professors Walter Willett** and **Eric Rimm**, along with postdoctoral fellow, **Dr Stacy Blondin**, had the opportunity to work with four undergraduate students to investigate the impact of covid-19 on food insecurity in the US. Specifically, the students accessed data collected weekly by the US Census Bureau Pulse Study on food availability, access, and affordability from April 23-July 21. The analysis looked at associations between four survey item responses related to food insecurity and race/ethnicity, reason for food insufficiency, income, and psychological stress. Below are the photos and brief bios of the students who made this project possible. Unfortunately, we were not able to meet them in person. We wish them the best of luck with their on- and off-campus endeavors this fall!

Findings on food insufficiency among Americans from April-July 2020 suggest that respondents falling into lower income brackets and those identifying as Black or of another race or combination of races more frequently reported sometimes or often not having enough to eat, compared to wealthier and white and Asian respondents.



MAEGAN JONG

Maegan, from Chicago, IL, is a rising sophomore studying Statistics and Computer Science at Harvard College. She is a part of **Dr. Blondin's**, **Dr. Rimm's**, and **Dr. Willett's** team looking at the effects of COVID-19 on food sufficiency. Maegan is incredibly interested in this project because she has always been curious about nutrition quality and food availability as well as understanding the widespread impacts of COVID-19 and wanted to explore the intersection of the two. At school, she serves as the Director of Tech & Media for WECode, the largest undergraduate women-in-tech conference, and Director of Relations for the Harvard Computer Society. In the future, she looks forward to continuing to apply her interests in technology to create positive social impact. In her free time, Maegan enjoys dancing with Asian American Dance Troupe and taking nature walks with her family!



DEREK WALSH

Hello! My name is **Derek Walsh** and I am from Newburyport, MA. I am a member of the Class of 2023 at Harvard College and I plan on studying Environmental Science and Public Policy. I would like to pursue a career with a focus on environmental science and racial justice. For extracurriculars, I am a member of Harvard College Running Club, Expressions Dance Company, and the Institute of Politics. I joined this project because I am interested in addressing food insecurity and I was excited to gain research experience. Looking forward to continuing my studies, both virtual and in person!

ELIZABETH PACHUS

Elizabeth is a rising junior at Harvard studying Human Evolutionary Biology with a data science certificate, hoping to pursue a career in public health. This summer she is excited for the opportunity to work with Drs. Willett, Rimm, and Blondin on a COVID-19 Nutrition and Food Security study, and on Dr. Blondin's VerEatTas project. Her interest in sustainability, nutrition, and the social determinants of health all motivated her to join the projects where she is looking forward to providing useful data while gaining new skills.

At school she enjoys running along the Charles, working with the Institute of Politics on the Harvard Votes Challenge and participating in intramural sports. This spring she has had fun trying to learn new recipes and remake Bon Appetite cooking videos with her two younger brothers.

Due to all classes being online for the academic year, she is taking the year off to volunteer in the AmeriCorps.

Elizabeth is thankful for the welcoming environment and support of the Nutrition department. She is eager to continue working on and learning from the projects with the guidance of her team!



NATHANIEL ALEMAYEHU

I'm in the class of 2023, and I am planning on concentrating in Statistics with a secondary in Global Health and Health Policy. I grew up in a suburb outside Atlanta, GA, and I hope to one day work as a biostatistician or in a similar role working with data for public health and biology. On campus I am involved in Yearbook, Harvard Society of Black Scientists and Engineers, and outside of Harvard I am a member of Fenway Health's Youth Community Advisory Board. I joined the team because I wanted to do work in data analysis that could have a direct use and impact on programmatic work being done in public health to combat the adverse effects of COVID-19 especially in underprivileged communities.

NEWS FROM AROUND THE NUTRITION DEPARTMENT

AWARDS

Dr Frank Sacks, Professor of Cardiovascular Disease Prevention, has been elected to receive the Distinguished Scientist Award of the American Heart Association. Dr Sacks has also started a 2-year term as Chair of the Council on Lifestyle and Cardiometabolic Health of the American Heart Association.

Dr Marianna Cortese, a Research Associate in the Department of Nutrition, has received a research grant award from the National Multiple Sclerosis Society for her project titled "*Changes in the human virome and the risk of multiple sclerosis.*" This is a pilot research grant to test innovative, cutting-edge ideas. Her study will examine the role of the human virome in multiple sclerosis. Dr Cortese will be working with **Drs Alberto Ascherio** and **Kassandra Munger** from the Department of Nutrition and **Dr Michael Mina** from the Department of Epidemiology.

Dr Josiemer Mattei, Donald and Sue Pritzker Associate Professor of Nutrition, **Dr Christopher Golden**, Assistant Professor of Nutrition and Planetary Health, and **Dr Christopher Sudfeld**, Assistant Professor of Global Health and Nutrition, were nominees for the 2020 Outstanding Mentor Award.

The Outstanding Mentor Award was established by the HSPH Postdoctoral Association in 2010 to acknowledge the hard work of the many exceptional mentors who contribute to the intellectual growth, professional success, and well-being of postdocs and research associates at Harvard Chan. This award is based on nominations from postdocs and research associates, and it was inspiring for the PDA to read the effusive nominations for each of these individuals—highlighting their commitment to supporting their mentee's professional development, research excellence and to building a lasting and mutually beneficial relationship.

PUBLICATIONS

Doctoral student **Laura Zatz** recently had the following paper published:

Zatz LY, Hersh E, Gudzone KA, Thorndike AN, Goldenberg MN, Bleich SN. [Physicians' political party affiliation and clinical management of obesity](https://doi.org/10.1111/cob.12396). *Clin Obes*. Vol. 10(5), e12396: October, 2020. <https://doi.org/10.1111/cob.12396>

The following paper was published online in *ATVB* on September 10, 2020:

Sacks FM, Liang L, Furtado J, Cai, Davidson WS, He Z, McClelland RL, Rimm EB, Jensen MK. Protein-Defined Subspecies of HDLs (High-Density Lipoproteins) and Differential Risk of Coronary Heart Disease in 4 Prospective Studies. *Arterioscler Thromb Vasc Biol*. 2020 Sep 10; ATVB AHA120314609. doi: 10.1161/ATVB AHA.120.314609. Online ahead of print.

According to co-author **Dr Jeremy Furtado**, Director of the Nutritional Biomarker Laboratory, "We generally think of HDL as 'the good cholesterol', but it's not that simple. Nutrition Department researchers **Frank Sacks**, **Jeremy Furtado**, **Eric Rimm**, and **Majken Jensen**, together with other colleagues have authored a newly published manuscript that for the first time shows opposing associations with coronary heart disease risk for 15 different HDL subspecies defined by the presence of certain proteins. The results show that not all types of HDL are protective and some may actually increase risk. This may explain why many pharmacological interventions that

increase HDL concentrations have failed to reduce the risk of heart disease. In contrast, two of the HDL subspecies studied, HDL that contains apoC1 and HDL that contains apoE, were associated with significant protection against heart disease, identifying targets for therapeutic intervention. In addition to these findings that mark a key advancement in our understanding of the role of HDL in heart disease, the project resulted in the development of a novel lab protocol to measure HDL subspecies that resulted in a patent granted to Harvard University. This manuscript marks the culmination of 7 years of effort from a diverse team of collaborators, including Nutrition Department lab staff **Nathaniel Smith**, **Maria Guerrero-Gamez**, and **Sue Wong-Lee** whose hard work and diligence produced the excellent quality data that is the foundation of the study. This work will open many avenues of research in basic science, risk assessment, and therapeutics.”

Former research scholar in the Department of Nutrition **Dr Minoo Bagheri** and colleagues have published a paper in *The American Journal of Clinical Nutrition (AJCN)*. In this paper they investigated the association between metabolites and diet quality and identified healthy and unhealthy metabolites according to healthy and unhealthy aspects of diet.

Minoo Bagheri, Walter Willett, Mary K Townsend, Peter Kraft, Kerry L Ivey, Eric B Rimm, Kathryn Marie Wilson, Karen H Costenbader, Elizabeth W Karlson, Elizabeth M Poole, Oana A Zeleznik, A Heather Eliassen, A lipid-related metabolomic pattern of diet quality, *The American Journal of Clinical Nutrition*, , nqaa242, <https://doi.org/10.1093/ajcn/nqaa242>

See: <https://academic.oup.com/ajcn/advance-article/doi/10.1093/ajcn/nqaa242/5906564>

NEW RESEARCH SCIENTIST APPOINTMENTS

Dr Manja Koch has been newly appointed as Research Scientist. Dr Koch’s research agenda centers on the identification of risk factors for cardiometabolic disorders and dementia. Her current work focuses on the role of diet, apolipoproteins, and sphingolipids in dementia risk in the Ginkgo Evaluation of Memory Study and the Cardiovascular Health Study.

Tips for Remote Teaching - Lessons Learned from NUT200

(by *Shilpa Bhupathiraju*)



The sudden onset of the COVID-19 pandemic has resulted in major, if not cataclysmic, changes in education. The teaching and learning process has been turned around on its head from a mostly in-class experience in which instructors and students enjoy in-person interaction to a remote learning process. Both teachers and students have had to learn to bootstrap to a whole different system of learning. Many instructors have never used Zoom to teach before and found it to be a bewildering experience. *NutriNews* would like to share some tips from **Dr Shilpa Bhupathiraju**, Research Scientist, about her experience teaching NUT200 online to others who might be able to benefit.

1. The one thing I have missed the most about teaching in-class is seeing students and their smiling faces. But how do we make the most of the situation and get to know our students? Use the discussion board to your advantage and have students respond to a question that describes themselves. For example, we've asked our NUT200 students to describe themselves using 3 foods that are in their pantry/grocery cart. This was also a fun way to learn more about foods from other cultures.
2. You can use virtual backgrounds to not only reflect the theme of the lecture but also to serve as a teaching tool! For example, in our last lecture on the Dietary Guidelines, I had a picture of the Harvard Healthy Eating Plate as my virtual background.
3. Make use of the "polls" feature in Zoom to engage students, review concepts, and assess knowledge. But keep in mind that these polls must be created in advance and Zoom currently only allows 20 polls to be pre-loaded.
4. For those of you that are planning to create asynchronous lecture recordings, one way to ensure that students are understanding the material is to embed quizzes within Panopto, the video hosting platform within Canvas. This feature requires that students answer the question before proceeding with the video. You can then go on the Canvas site to see which students and how many got the right answer. This also allows you to re-review a concept if you find that most of the students missed the correct answer.

5. When scheduling Zoom meetings for your live class sessions, make sure the Zoom session starts 15 minutes before and ends 15 minutes after. This will prevent you from automatically getting kicked out of your class once the class time ends.
6. Remote teaching doesn't offer you the visual cues that you would get in a regular classroom setting. However, you could ask students to put their questions in the chat box, raise their hand (virtually of course!), or you could stay on for 15 minutes after class ends to answer questions.
7. For synchronous or asynchronous recordings, review those closed captions! And keep a running list of caption bloopers if you ever want a laugh later.
8. Be mindful of time zone differences. To be more inclusive, for students that are 12 hours ahead, we have offered office hours in the evening – between 7PM – 8PM Boston time.
9. Another useful way of engaging students and gauging class participation is by creating discussion threads on Canvas. Invite students to start a discussion thread or start one and have the students weigh in. We found this to be a very useful way to engage students and to get student insights. Discussion threads can range from anything academic like a paper assigned for reading to current controversies to something more fun as sharing favorite recipes.
10. While remote learning cannot completely mimic the in-person experience of discussing or working together as a small group project in the Kresge cafeteria, one way to do this is through Canvas. Did you know that you can create Canvas sub-group pages within the main Canvas course page? Only the students assigned to that group will have access to this sub-page and the group members can then use the discussion board within this Canvas sub-group page to work and plan their group project.
11. Plan for things to go wrong because they eventually will (even with the best planning)!
12. And when things eventually go wrong, the Harvard IT team and the remote learning team are more than happy to help and have been wonderful in troubleshooting issues. Make use of their expertise.

NUTRITION RESEARCH NEWS

Dr Miguel A Martinez-Gonzalez and Colleagues Investigate FOP Nutrition Labeling as Best-Buy Policy Measure

European food labels, usually printed in very small font, can be overwhelming and hard to understand, as it is difficult to make sense of all the information shown on the package. Front-of-pack (FOP) nutrition labelling seeks to clarify nutritional information, displaying the healthiness of food products in a simplified, visual form. FOP nutrition labelling is one of the "best buy" policy measures that can be implemented in conjunction with educational campaigns to promote healthy eating and prevent diet-related chronic diseases.

The Nutri-Score is a food labeling system based on a modified version of the British Food Standards Agency Nutrient Profiling System (FSAm-NPS) that categorizes products into five different colors depending on nutritional quality. The FSAm-NPS assigns scores to food and beverage products according

to their amount of energy, saturated fat, sugar, sodium, fiber, protein, fruits, vegetables, legumes, nuts, rapeseed, walnut and olive oils per 100 g of product.

A new study [published in Clinical Nutrition](#) and led by **Clara Gómez-Donoso**, doctoral candidate at the Department of Preventive Medicine and Public Health at the University of Navarra (Spain), and **Miguel A. Martínez-González**, Adjunct Professor of Nutrition at Harvard T.H. Chan School of Public Health, found that the consumption of food products with a higher FSAm-NPS score (i.e., lower nutritional quality) was associated with a higher risk of all-cause and cancer mortality in the SUN cohort. The SUN ("Seguimiento Universidad de Navarra" – University of Navarra Follow-Up) study is a Spanish prospective, dynamic, and multipurpose cohort patterned after the models of the Nurses' Health Study and Health Professionals Follow-up Study but conducted in a Mediterranean setting.

The researchers, who looked at dietary data from 20,503 middle-aged Spanish university graduates, calculated the FSAm-NPS for each food and beverage item in the previously validated SUN Food Frequency Questionnaire and computed the FSAm-NPS Dietary Index as an energy-weighted mean of the FSAm-NPS scores of all foods and beverages consumed by each participant. Findings indicated that participants with the worst quartile of the FSAm-NPS Dietary Index (reflecting consumption of foods with lower nutritional quality and hence less favorable Nutri-Score rating) showed a relatively 82% increase in the risk of all-cause mortality compared to those in the best quartile. Specifically, the risk of cancer mortality was more than twofold higher. Notably, secondary analyses revealed that assigning olive oil the highest nutritional quality (given the strong evidence supporting its beneficial effects, regardless of its energy and fat content) should be considered in Mediterranean contexts.

The senior author, **Maira Bes-Rastrollo**, Professor of Preventive Medicine at the University of Navarra (Spain) and former research fellow at the Department of Nutrition, HSPH, concluded that "these findings further support the implementation of Nutri-Score in Euro-Mediterranean countries. Educational campaigns and broader food system policies should also be implemented to primarily encourage the consumption of whole, unprocessed foods, according to the traditional Mediterranean dietary pattern."

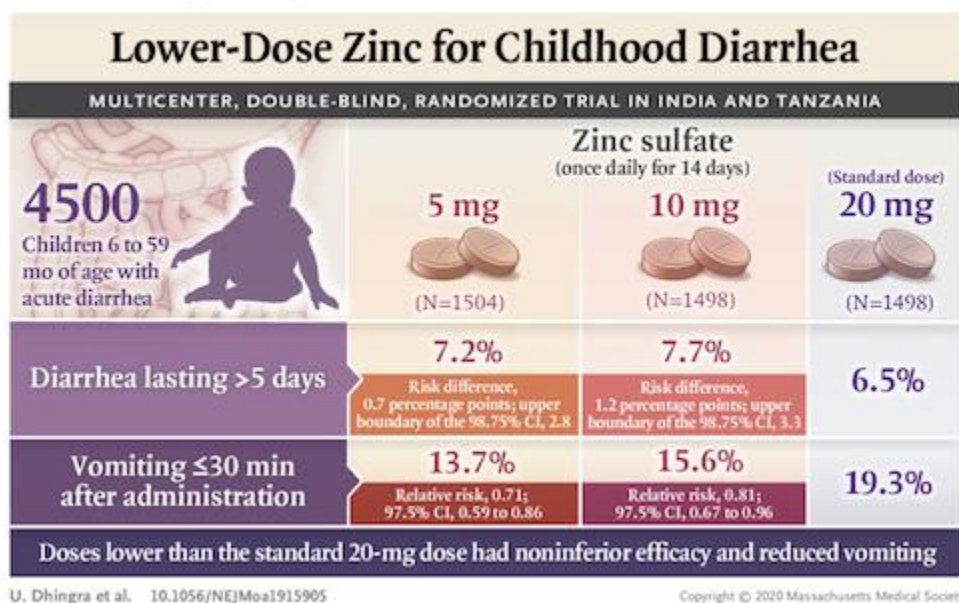
Gómez-Donoso C, Martínez-González MÁ, Perez-Cornago A, Sayón-Orea C, Martínez JA, Bes-Rastrollo M. Association between the nutrient profile system underpinning the Nutri-Score front-of-pack nutrition label and mortality in the SUN project: A prospective cohort study [published online ahead of print, 2020 Jul 17]. Clin Nutr. 2020;S0261-5614(20)30359-9.

See also: <https://www.facebook.com/photo.php?fbid=2037158889753347&set=a.170795936389661&type=3&theater>

New Study Finds Low-Dose Zinc Effective Against Acute Childhood Diarrhea

A new study of 4,500 youngsters in India and Tanzania has concluded that doctors who use zinc to treat children for acute diarrhea can greatly reduce the recommended dose and may, in the process, prevent the vomiting that can accompany the therapy. This study shows that 5 mg was nearly as effective as the 20 mg/day dose for 10-14 days recommended by WHO.

Diarrhea lasted more than 5 days in 6.5% of the children who received 20 mg daily, 7.7% given 10 mg daily and 7.2% of the youngsters who received 5 mg daily. The rates of vomiting within 30 of taking the zinc were 19.3%, 15.6% and 13.7% respectively.



According to **Dr Christopher Duggan**, co-author of the study and Director of the Center for Nutrition at Boston Children's Hospital and Professor in the Department of Nutrition, "Lower doses of zinc are equally effective as higher doses but have an improved safety profile. That should induce policy makers to change the policy and implement the newer therapy,"

Roughly a half million children worldwide die from diarrhea each year. The 20 mg dose of zinc is 4 to 10 times the recommended daily allowance for infants and young children. However, the treatment has not been widely embraced in developing countries. This may be due to the vomiting issue.

The team tested children ages 6 to 59 months who had been brought to an outpatient health facility. They either suffered from dysentery or typically were in their second day of diarrhea. Severely malnourished children were excluded, as were children with other serious illnesses.

The researchers did see a difference in the results for the two countries. "Children in India appeared to benefit more from lower zinc doses with respect to vomiting than did children in Tanzania," they said. "In addition to differing with respect to their country of origin and possibly other, unmeasured factors, the cohorts of children from the two countries included in the trial differed with respect to age (Tanzanian children were younger), nutritional status (Indian children were less well nourished), and rotavirus vaccine coverage (high in Tanzania and very low in India)."

Dr. Duggan said the results are probably not relevant in developed countries, where youngsters are more likely to have higher zinc levels in their bodies to begin with. "Have there been a ton of studies on this? No. But the suspicion is that the nutritional status of children in developed countries is probably so good they would not benefit," he said.

Dr Christopher Sudfeld, Assistant Professor of Global Health and Nutrition, was also a co-author on the study.

Dhingra, U., et al. (2020). "Lower-Dose Zinc for Childhood Diarrhea - A Randomized, Multicenter Trial." *N Engl J Med* **383**(13): 1231-1241.

From: <https://www.mdalert.com/news/article/low-dose-zinc-effective-against-acute-childhood-diarrhea>

See also: <https://discoveries.childrenshospital.org/zinc-diarrhea-children/>

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 **1:00-1:50 pm** and are free and open to the public. Because of COVID-19, the seminars have been presented via Zoom since March of this past spring, and this zoom format will continue in the fall of 2020. A zoom link for viewing will be available one week prior to each seminar.

Our October speakers will be:

October 5 – Dr Jessica Fanzo, PhD, Bloomberg Distinguished Professor of Global Food and Agriculture Policy and Ethics, Director, Global Food Ethics and Policy Program – *"Eating Healthy, Sustainably and Equitably in the Anthropocene"* – NGHP.

October 12 – INDIGENOUS PEOPLE'S DAY

October 19 – Dr Sheila Fleischhacker, PhD, JD, Adjunct Professor of Law, Georgetown University Law Center – *"Addressing Food Insecurity in the United States: Successes and Shortcomings of Federal Nutrition Assistance"*

October 26 – Dr Daphne Miller, MD, Clinical Professor, Department of Family Medicine, University of California, San Francisco – TBD.

NUTRITION SOURCE UPDATES

What is precision nutrition?

It may sound like a new fad diet, but precision nutrition is an emerging area of research supported by the National Institutes of Health under the umbrella of precision medicine. Both aim to provide safer and more effective ways to prevent and treat disease by providing more accurate and targeted strategies. However, is this approach ready for prime time? Read more:

<https://www.hsph.harvard.edu/nutritionsource/precision-nutrition/>

Spotlight on mindful eating

Mindful eating stems from the broader philosophy of mindfulness, a widespread, centuries-old practice used in many religions. Learn seven practices of mindful eating, as well as tips for mindful eating in the context of the COVID-19 pandemic:

<https://www.hsph.harvard.edu/nutritionsource/mindful-eating/>

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/>)

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6. Community Outreach Now & Post COVID
7. Agriculture and Sustainable Food Systems
8. International Collaborations

Keynote Speakers

Frank Hu, MD, MPH, PhD
Harvard T.H. Chan School of Public Health

RICHARD ROTHSTEIN, MD
Geisel School of Medicine, Dartmouth

NICOLE FARMER, MD
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