Hunger and Environmental Nutrition
a dietetic practice group of the
Academy of Nutrition and Dietetics

The HEN Post

Spring 2015

In this issue:

Plenty of Fish in the Sea? Sustainable Seafood Primer for Thought

by KC Wright, MS, RDN, LD

As spring returns to our landscapes, albeit somewhat stubbornly in certain parts of the country, reminders that salmon are spawning or the shad (herring-like fish) are running, often headline regional news.

Recalling what we may have learned about fish and seafood in undergraduate nutrition programs seems limited to the claim that tuna is the most nutrient dense source of protein, along with the healthful benefits of omega-3 fatty acids. Yet as hunger and environmental nutritionists, our mission is to look beyond the metabolic fate of nutrients, to consider the overall quality of seafood; its accessibility across social and cultural boundaries; the people who have labored from fish to dish; and the environmental implications of hook, line, and sinker.

Three ounces of wild salmon provides 17 grams of protein and less than a gram of saturated fat,[1] while being an excellent source of omega-3 fats, shown to reduce both arrhythmias and arterial inflammation.[2] The American Heart Association recommends eating two, 3.5-ounce cooked servings of fish (particularly fatty fish) at least twice a week. Fatty fish like salmon, mackerel, herring, lake trout, sardines and albacore tuna are high in omega-3 fatty acids.

But from pollution to overfishing, not only are we limited in having enough wild salmon to feed the world's population, we are harming our oceans. According to award-winning chef and cookbook author Barton Seaver, director of the Healthy and Sustainable Food Program at the Center for Health and the Global Environment at the Harvard School of Public Health, and a National Geographic Fellow, the goal should not be how to place more demands on the ocean, rather to consider the diversity of seafood that the ocean can provide.[3] There are hundreds of species of commercial fish, though we regularly consume just ten varieties. Seaver encourages people to enjoy fish available based on quality at a fair price, versus the continual demand for a familiar species.

Toxins in seafood have scared many consumers away with good reason: Seafood contaminants include metals such as mercury, industrial chemicals (polychlorinated biphenyls—PCBs and dioxins), and pesticides such as DDT[4]. These land toxins migrate into the smallest plants and animals at the base of the ocean food web. As smaller seafood species are eaten by larger ones, contaminants concentrate and accumulate. Large predatory fish (i.e. swordfish and sharks) contain the most toxins. Though research suggests that the health benefits to eating fish outweighs the toxic risks[5], how long will this hold true? And at what cost to human and environmental health?

Wild Seafood Versus Farm-Raised

Scientists report that in the past decade, nearly two-thirds of fish assessed are unhealthy, and suspect that those not yet assessed are even worse.[6] In just the past decade, Atlantic halibut and yellowtail flounder joined a list of record declines in fish species. Cod fish, once a backbone of the North Atlantic economy, collapsed completely in the early 1990s—showing little evidence of recovery today. The breeding population of Pacific Bluefin tuna is now at only four percent of its original size. Thus, half of the seafood eaten in the United States today is farmed to meet consumer demand.

Though the environmental impact of fish farming var-

(continued on page 3)

HEN MISSION

To empower members to be leaders in sustainable and accessible food and water systems

HEN VISION

To optimize the nation's health by promoting access to nutritious food and clean water from a secure and sustainable food system

THE BENEFITS OF HEN MEMBERSHIP INCLUDE:

- Quarterly newsletter with occasional CPE articles and reproducible fact sheets.
- Access to the HEN Electronic Mailing List (EML) that provides the latest information and relevant conferences.
- Subscription to the Journal of Hunger & Environmental Nutrition published by Taylor and Francis.
- Member-only access to articles and resources via the HEN website — www.HENdpg.org.
- Collaboration with food and nutrition professionals across the United States and the world.
- Opportunity to be nominated for HEN awards.
- Notices of related conferences around the country.
- Potential for national and international recognition when working on HEN projects.
- Eligible to vote in HEN Executive Committee election.

Message from the Chair

by Dianne Lollar, MPH, RD, LD

"Don't judge each day by the harvest you reap but by the seeds that you plant."

– Robert Louis Stevenson

As the 2014-2015 program year comes to a close, I would like to thank the HEN leadership team (53 volunteer members) for their exceptional work as we implemented the five year strategic plan. A brief summary of our work follows below. A very special thank you to our sponsors, Organic Valley, Clif Bar, Taylor and Francis for their continued support of our work. We value your association with HEN!

The HEN Membership Committee has developed our state and regional leader project that will provide HEN members an opportunity for educational events,farm tours and annual meetings in a local and regional venue. The Certificate of Training in Sustainable Food Systems will be available for HEN and Academy members in the coming months providing an opportunity to master sustainable food system concepts and earn CPEUs. School to Farm Task Force has identified a new farmer to participate in the program and they are in the process of updating the application on the HEN website. Our webinar series continues to be a member favorite. This year we updated to a new web platform and had record attendance for our webinars. CPEU credit is now available for 2015 webinars archived on the HEN website. The Speaker's Bureau supported eleven fantastic speakers, six of those at affiliate conferences. Two events targeted to dietetic interns, The Michigan Green Healthcare Conference and the Nutrition and Dietetics Educators and Preceptors annual meeting. Additionally, HEN display booths were featured at FNCE and three state affiliate conferences. Our Public Policy Committee expanded grassroots networks to help activate members and co-hosted the PPW film festival. The Child Nutrition Reauthorization work group included HEN members providing their expertise for recommendations in the upcoming reauthorization legislation. The Member Communications Committee expanded publication of the HEN eZine to bi-monthly providing timely and brief updates for members. Our website is scheduled for an update in the coming months to allow improved service and expanded content. The HEN Post, our quarterly newsletter is scheduled for an updated design in the months to come. HEN communication via social media has been impressive with twitter, facebook and pinterest following. The Food Security Task Force is in the final stages of completing a fact sheet that will serve as a resource for RDNs to get involved in food security from a food systems perspective. In addition, the task force is in the beginning stages of creating a template for assessing food security in a clinical setting as well as a video describing how RDNs are involved in food security issues. These projects are part of the Academy's Food Security Task Force work plan. Food and Spirituality Task Force is completing a fact sheet on food, spirituality and the RDN and pursuing networking relationships with other organizations. HEN members were on the Academy ballot and served on the RDN Farmer Committee as well as authors and reviewers for Academy position papers. Our urban farm tour and annual film feastival were all sold out events at FNCE in Atlanta. A busy year for HEN and much to celebrate!

Thank you for the opportunity to serve as the 2014-2015 Chair of HEN and thank you for your membership and support! As we continue into the second year of our strategic plan of work, please join me in welcoming Jasia Steinmetz, PhD, RD, HEN Chair 2015-2016.

Best Regards,
Dianne Lollar, MPH, RDN, LD
Chair Hunger & Environmental Nutrition Dietetic Practice Group

(Plenty of Fish in the Sea *continued from page 1)*

ies widely, it's a common misconception that as a practice, aquaculture is wholly detrimental. Rather, fish farming can be a means to enhance and restore commercial, recreational, and ecologically important species and habitats. Aquaculture is a resource-efficient way to produce protein when comparing the ratio of pounds of feed to produce a pound of protein. Farm-raised salmon is the most feed intensive cultured fish with a ratio of 1.2 pounds of feed to produce 1 pound of salmon, still lower than the 1.9 pounds of feed to produce 1 pound of chicken (Pork 5.9:1, Beef 8.7:1).[7]

Fishers use a wide range of gear and methods to land their catch, with each farming system having its own distinct environmental footprint. (For details, see: www.seafoodwatch.org/ocean-issues/fishing-and-farming-methods.) By choosing seafood from better farms and production systems, consumers can play a positive role in reducing aquaculture's potential negative impacts. Registered dietitian nutritionists can use available resources to help guide our clients and the public towards sustainable seafood choices. For example, the **Monterey Bay Seafood Watch** website, app, and consumer guide all provide recommendations for which seafood is a best choice, a good alternative, or to simply avoid.

Community Supported Fisheries

Land farmers all around the country are well into their growing season, whether seedlings are garnering strength in cold frames throughout New England or asparagus is being harvested in California. With anticipation, thousands of consumers are signing up for their farm fresh lots through Community Supported Agriculture or CSA. Similarly, Community Supported Fishery (CSF) links fishers to a local market to ensure they receive a fair price for their catch that reflects the value of their work, while consumers have premium access to locally caught seafood. CSFs seek to reconnect coastal communities to their food system and encourage sustainable fishing practices. Supplies of fresh seafood are likely limited in land-locked locales, but canned and frozen varieties may be an option.

Who Fishes Matters

As in land farming and other agricultural pursuits, we are becoming increasingly aware of unfortunate human rights abuses that occur in seafood supply chains throughout the world. Fortunately, many nonprofit organizations are working to help rectify these issues, including **FishWise** who in 2014 released a comprehensive white paper on human rights issues in the seafood industry.[8] The **Northwest Atlantic Marine Alliance** (NAMA) established a Who Fishes Matters campaign aimed to empower fishing and seafood-dependent communities, and educate the public on the issue of broken seafood policies that are undermining coastal communities, local economies, the marine environment, and our food system. It's important for us to keep these real people and issues in mind as we fulfill our pursuit of sustainable food systems.

Farmed Trout

Farm-raised trout in the U.S. are ranked a green "Best Choice" for sustainability. Farmed trout, native to the streams, rivers, and lakes of the U.S., are raised in flowing cold freshwater. Farmed trout are usually 1-2 lbs at the market. These fish have a firm flesh that is naturally pink (like salmon) and are high in heart healthy Omega-3s.

CHOOSING SUSTAINABLE SEAFOOD:
www.seafoodwatch.org/seafood-recommendations/consumer-guides

www.nationalgeographic.com/foodfeatures/seafood-decision-guide/

HOW TO PREPARE:
www.seafoodwatch.org/consumers/sustainable-recipes

OTHER SUSTAINABLE SEAFOOD RESOURCES:
National Oceanic and Atmospheric Administration (NOAA) Office Of Sustainable Fisheries
www.nmfs.noaa.gov/sfa

North Atlantic Marine Alliance
www.namanet.org

Community Supported Fisheries
www.localcatch.org

QUICK AND EASY FARMED TROUT

Ingredients:
4 trout fillets
Juice of one lemon
1 tsp. seasoned salt
1 tsp. Old Bay
(or other seafood seasoning)
4 tbsp. whole grain mustard

This fish pairs well with a Pinot Noir or Riesling.

Preparation:
Preheat your oven to Broil. Place trout fillets on nonstick baking pan. Sprinkle trout fillets with lemon juice then evenly with seasonings. Spread 1 tbsp. mustard evenly on each fillet. Place under broiler for 5 to 7 minutes.

Recipe courtesy of Sunburst Trout Company www.sunbursttrout.com

Hook The Best

In seeking sustainable seafood for ourselves and those we advise, we need to continue to ask questions on its source and environmental impacts, as well as consider those who brought the fish to our fork. Are we willing to eat seafood in season? Try new varieties? Consider seafood as a complement to plant based diets? Hopefully as members of HEN, we will further our discussions on sustainable seafood and gain expertise in understanding the industry and other innovative fishing programs for these nutritious food sources.

1. *Agriculture, U.D.o., USDA Nutrient Database for Standard Reference, Release 14. 2005.*
2. Leaf A. Prevention of sudden cardiac death by n-3 polyunsaturated fatty acids. J Cardiovasc Med. (Hagerstown). 2007; 8 Suppl 1:S27-29.
3. www.chgeharvard.org/sites/default/files/Best-Healthy-Fish-to-Eat.pdf
4. A Quantitative Synthesis of Mercury in Commercial Seafood and Implications for Exposure in the United States. Roxanne Karimi, 1 Timothy P. Fitzgerald, 2 and Nicholas S. Fisher.
5. Fish Intake, Contaminants, and Human Health: Evaluating the Risks and the Benefits, *JAMA*, October 18, 2006—Vol. 296, No. 15)
6. Monterey Bay Aquarium Seafood Watch www.seafoodwatch.org
7. Salem State University, Salem, MA www.salemstate.edu/academics/schools/25259.php
8. Trafficked II: An Updated Summary of Human Rights Abuses in the Seafood Industry www.fishwise.org/index.php/services/human-rights

Antibiotic Stewardship: What do dietitians have to do with it?

by Emily Kujawa, MPH, RD and Stacia Clinton, RD, LDN

The World Health Organization has called antibiotic resistance "a problem so serious it threatens the achievements of modern medicine."1 The rise of so-called "superbugs"—pathogenic microorganisms that have developed resistance to most, or all, human antibiotics used to treat their infections—has gained worldwide attention. It is hard to overstate the impact of antibiotic resistance on human health, health care costs, and the environment.

Each year in the United States, at least 2 million people become infected with antibiotic-resistant bacteria and at least 23,000 people die as a direct result of these infections.[2] Studies estimate it costs $21 -$34 billion to treat antibiotic-resistant infections in the United States alone.[3] Registered Dietitians and Dietitian Technicians Registered play a central role in supporting judicious use of antibiotics. Promoting comprehensive antibiotic stewardship strategies in health care through both clinical services and food purchasing, is a key strategy to address this enormous challenge.

Health Care

Most deaths related to antibiotic resistance occur in health care settings such as hospitals and nursing homes.[4] A high percentage of hospital-acquired infections are caused by highly resistant bacteria such as methicillin-resistant *Staphylococcus aureus* (MRSA) or multidrug-resistant Gram-negative bacteria.[5] While antibiotics are critical medications for many infections, they may be prescribed inappropriately in up to 50 percent of cases.[6] Health care facilities may support smarter use of antibiotics through antibiotic or antimicrobial stewardship programs. These are coordinated programs that promote the appropriate use of antimicrobials (including antibiotics), improve patient outcomes, reduce microbial resistance, and decrease the spread of infections caused by multidrug-resistant organisms.[7] RDs in clinical settings can serve on multidisciplinary teams to develop institutional policies and programs that monitor antibiotic use, establish guidelines for the types of antibiotics and antimicrobial products that can be used and under what circumstances, and guide food purchasing of meats raised without non-therapeutic antibiotics.

Food Production

Antibiotics used in food animal production account for 80 percent of all antibiotics sold in the U.S.[8] Large-scale livestock producers, particularly poultry producers, often routinely administer sub-therapeutic doses of antibiotics to livestock, not only to prevent illness among animals raised in concentrated, confined conditions, but also to aid growth. This sub-therapeutic administration directly contributes to the development of antibiotic resistance. In fact, for certain microorganisms such as the bacteria *Salmonella* and *Campylobacter,* the use of antibiotics in food animals is the primary reason for increased resistance.[9] Antibiotic use in food-producing animals is linked to the occurrence of antibiotic-resistant infections in humans. However, some classes of antibiotics are more important in this link than others. Classes of antibiotics that are used only for animals, including "ionophores," are generally not as concerning as the use of antibiotics that are "medically important" to humans. Overuse or misuse of medically important antibiotics in animals may accelerate the development of resistant pathogens that can cause illness in humans. The Centers for Disease Control and Prevention (CDC) recommends medically important antibiotics "be used in food-producing animals only under veterinary oversight and only to manage and treat diagnosed infectious disease, not to promote growth"[10] or compensate for overcrowded living conditions.

Increased consumer awareness of antibiotic resistance, the role of industrialized meat production, and growing demand for animal products raised without the use of routine antibiotics, is leading to changing practices in the agricultural and food industries. For example, over the past 12 years Perdue Foods (one of the largest poultry producers in the U.S.) has implemented a "no antibiotics ever" program for a portion of its birds that involves several strategies: no antibiotics for growth promotion or in hatcheries; no antibiotics medically important to humans in feed; and treating sick animals with antibiotics that are least medically-important to humans. Since 2001, the program has resulted in a 95 percent reduction in the percent of chickens that receive a human antibiotic.[11] More recently, in 2014 Chick-fil-A announced that, over a five-year period, it would phase out serving chicken raised with antibiotics.[12] McDonald's also recently announced that, within two years, it will shift to only buy chickens raised without antibiotics important to humans.[13] Institutions such as schools and health care systems are also switching to sourcing antibiotic-free products. For example, six large school districts across the U.S. are switching to purchasing only chicken that has been raised without use of antibiotics.[14] Health care facilities, such as the University of California San Francisco, have implemented resolutions to phase out the purchase of meats raised with non-therapeutic antibiotics.[15]

RDs can help support continued momentum toward reducing antibiotic use by providing accurate information to clients and the public about antibiotic use in food animal production, and empowering consumers to choose products that are produced with low or no antibiotics. In order to avoid meat raised with routine antibiotics, RDs may advise their clients to choose products that bear the label "***Raised Without Antibiotics***" or "***USDA Organic***," or to buy meat directly from a farmer who they can question about their practices. RDs in foodservice settings can evaluate any existing institutional policies related to purchasing animal products raised with antibiotics, and use resources (listed below) to advocate for strengthening these policies to only allow purchasing of products raised with strong antibiotic stewardship practices. They can also advocate for better policies within federal agencies and food animal producers that support better antibiotic stewardship.

Policy

In addition to institutional and food producer policies, federal policy plays an important role in supporting smarter antibiotic use. Currently, antibiotic use is regulated and monitored at the national level by a patchwork of federal agencies. The Food and Drug Administration (FDA) regulates antibiotic approvals for human and animal use. In addition, the National Antimicrobial Resistance Monitoring System (NARMS) is national surveillance system that tracks antimicrobial resistance trends among sick people, retail meats, and food animals in the United States. NARMS is a collaborative effort between the FDA, CDC and USDA. NARMS does not regulate how antibiotics are administered to animals or require food animal producers to report on antibiotic use.

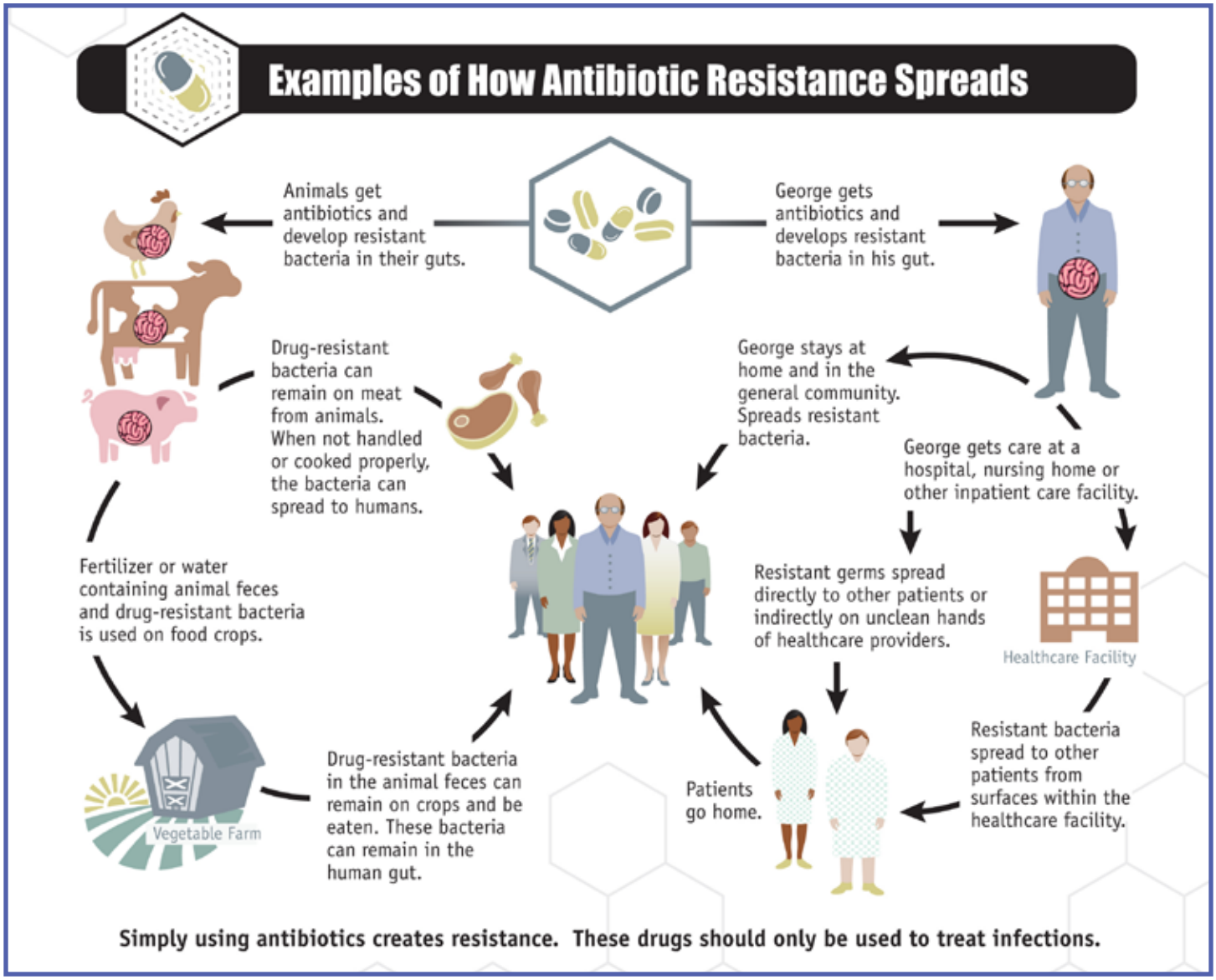
Currently, a number of national policy and legislative opportunities exist to support movement toward increased transparency and strong standards for antibiotic use. For example, the White House's "***National Action Plan for Combating Antibiotic-Resistant Bacteria***," released on March 27, 2015, is a five-year national plan addressing both clinical and agricultural antibiotic use. However, experts agree that the plan does not go far enough to control and monitor use in agriculture and relies too heavily on voluntary measures with little accountability. Therefore, stronger congressional action is needed.[16]

Two important pieces of national legislation are being reintroduced in 2015 that would adopt a more proactive approach. ***The Preservation of Antibiotics for Medical Treatment Act*** (PAMTA) would ban non-therapeutic uses of medically important antibiotics in food animal production. This bill was introduced by Representative Louise Slaughter on March 24, 2015. The Senate version of the bill, ***Preventing Antibiotic Resistance Act of 2014*** (PARA) was reintroduced by Senators Dianne Feinstein and Susan Collins on March 3, 2015. In addition, a second bill, the ***Delivering Antimicrobial Transparency Act*** (DATA), will be reintroduced later this year and would provide better information on the amount and use of antibiotics and other antimicrobials given to animals raised for human consumption. The bill has an identical name in the Senate. It is critical that RDs use their voice as authorities on diet and health to support legislation that protects antibiotics and that monitors and regulates their use in agriculture. You can show your support for this important legislation by contacting your representatives.

As experts on food and nutrition and key members of the health care team, RDs play a key role in providing accurate information to other health care professionals, patients, clients, and the public; as well as advocating for strong antibiotic stewardship policies and practices in clinical and food production settings. Promoting strong antibiotic stewardship is everyone's business!

For More Information

HEN White Paper: "Sub-Therapeutic Antibiotic Use in Food Animals: Critical Findings for Registered Dietitians" (2011) (www.hendpg.org/docs/HENAbtWhitePaperFinal3.2011-5.pdf): Provides food and nutrition professionals with the information to speak knowledgeably when interacting with clients, other professionals, and the media about the impact of sub-therapeutic antibiotic use in animal production.



Graphic courtesy of US Dept of Health & Human Services: Center For Disease Control & Prevention

HEN Webinar: "Antibiotic Stewardship: A Primer for RDNs" (January 2015) (www.hendpg.org/page/webinar-archives): This webinar provides an overview of the challenges and concerns associated with inappropriate antibiotic use, with a focus on considerations for RDNs in various areas of practice. The webinar will also highlight current efforts at the national level to address this issue through comprehensive stewardship in both clinical care and food animal production.

Health Care Without Harm Fact Sheet: "Expanding Antibiotic Stewardship: The Role of Health Care in Eliminating Antibiotic Overuse in Animal Agriculture" (May 2014) (https://noharm-uscanada.org/documents/expanding-antibiotic-stewardship): This fact sheet provides an overview of the challenges and opportunities for strengthening antibiotic stewardship in health care settings, and provides examples of hospitals that have taken steps to improve their stewardship practices.

CDC Report: "Antibiotic Resistance Threats in the United States" (2013) (www.cdc.gov/drugresistance/threat-report-2013): Provides a first-ever snapshot of the burden and threats posed by the antibiotic-resistant germs having the most impact on human health.

Infectious Diseases Society of America (IDSA) Report: "Antimicrobial Resistance" (2014) (www.idsociety.org/topic_ antimicrobial_resistance/)

World Health Organization (WHO) Report: "Antimicrobial resistance: global report on surveillance 2014" (2014) (www.who.int/drugresistance/documents/surveillancereport/en/): This report, produced in collaboration with Member States and other partners, provides for the first time, as accurate a picture as is presently possible of the magnitude of AMR and the current state of surveillance globally.

Consumers Union and US PIRG Report: "Prescription for Change: Antibiotics Use in Humans & Animals Amidst Growing Concerns of Doctors" (2014) (www.uspirg.org/reports/usp/prescription-change): This report presents the results and analysis of a recent poll of physicians commissioned by Consumer Reports and released by Consumers Union and U.S. PIRG. The poll found overwhelming concern among physicians about antibiotic resistance and current antibiotic practices.

Health Care Without Harm (www.healthyfoodinhealthcare.org): Non-profit organization whose mission is to transform the health sector worldwide so that it becomes ecologically sustainable and a leading advocate for environmental health and justice. Healthy Food in Health Care Program website provides a variety of resources and information about antibiotic resistance and guidance on developing an antibiotics resolution at your facility.

Pew Trusts Antibiotic Resistance Project (www.pewtrusts.org/en/projects/antibiotic-resistance-project): Provides resources and information for professionals and advocates on antibiotic resistance in health care and food production.

1. WHO. "Antimicrobial resistance: global report on surveillance 2014." Available at: http://www.who.int/drugresistance/documents/surveillancereport/en/ Accessed 3-30-2015.
2. CDC. "Antibiotic/Antimicrobial Resistance." Available at http://www.cdc.gov/drugresistance/. Accessed 3-31-2015.
3. WHO. "Antimicrobial resistance: global report on surveillance 2014." Available at: http://www.who.int/drugresistance/documents/surveillancereport/en/ Accessed 3-30-2015.
4. CDC. "About Antimicrobial Resistance." Available at http://www.cdc.gov/drugresistance/about.html. Accessed 3-31-2015.
5. WHO. "Antimicrobial resistance." Available at http://www.who.int/mediacentre/factsheets/fs194/en/. Accessed 3-31-2015.
6. CDC. "About Antimicrobial Resistance." Available at http://www.cdc.gov/drugresistance/about.html. Accessed 3-31-2015.
7. Association of Professionals in Infection Control and Epidemiology. "Antimicrobial stewardship." Available at http://www.apic.org/Professional-Practice/Practice-Resources/Antimicrobial-Stewardship. Accessed 3-31-2015.
8. Grow B, Huffstutter P and Erman M. "Documents reveal how poultry firms systematically feed antibiotics to flocks." *Reuters.* September 15, 2014. Available at http://www.reuters.com/investigates/special-report/farmaceuticals-the-drugs-fed-to-farm-animals-and-the-risks-posed-to-humans/. Accessed 3-31-2015.
9. CDC. "About Antimicrobial Resistance." Available at http://www.cdc.gov/drugresistance/about.html. Accessed 3-31-2015.
10. *Ibid.*
11. Stewart-Brown B. "12 Years of Progress in Reducing Antibiotics Use." Presented during HEN DPG webinar "Antibiotic Stewardship: A Primer for RDNs," February 10, 2015.
12. Chick-fil-A. "Chick-fil-A to Serve Antibiotic-Free Chicken." Press release, February 11, 2014. Available at http://www.chick-fil-a.com/Media/PDF/Chick-fil-A%20to%20Serve%20ABF%20Chicken.pdf. Accessed 3-31-2015.
13. Baertlein L and Huffstutter P. "McDonald's USA to phase out human antibiotics from chicken supply." *Reuters.* March 4, 2015. Available at http://www.reuters.com/article/2015/03/04/us-usa-mcdonalds-antibiotics-idUSKBN0M01L520150304?feedType=RSS&feedName=healthNews. Accessed 3-31-2015.
14. Polansek T. "Big U.S. school districts plan switch to antibiotic-free chicken." *Reuters.* December 9, 2014. Available at http://www.reuters.com/article/2014/12/10/us-antibiotics-chicken-education-idUSKBN0JO00320141210?sl&utm_campaign=2015-01-27%20HHIF&utm_medium=email&utm_source=Eloqua. Accessed 3-31-2015.
15. Fleischer D. "UCSF Academic Senate Approves Resolution to Phase Out Meat Raised with Non-Therapeutic Antibiotics." Available at http://sustainability.ucsf.edu/1.353. Accessed 3-31-2015.
16. The Campaign to End Antibiotic Overuse. "Keep Antibiotics Working Coalition: Final Antibiotics National Plan from the White House a Missed Opportunity." Press release. March 27, 2015. Available at http://www.keepantibioticsworking.com/new/PRfiles/KAW_WHReportStatementFINAL.pdf. Accessed 3-31-2015.

Is Organic More Nutritious Than Non-Organic? Let's Think Beyond The Plate

by Melinda Hemmelgarn, MS, RD

Are organic foods more *nutritious* than non-organic? Are they *healthier* or *safer*? As a dietitian, I'm often asked these questions and I answer with a resounding: YES. And then I explain why.

First and foremost, let's get on the same page about how we define "nutritious." I believe a "nutritious" food is more than the sum of its nutrients. Certainly, nutritious foods are nutrient-dense. In other words, they provide a rich source of nutrients in relation to their calories. But they must also be free of contaminants, such as heavy metals, antibiotic and pesticide residues. And, they should be produced in a way that does not harm our larger environment.

Personally, I like to factor *food safety* into my definition of "nutritious." I look at food safety from both a chemical *and* bacterial perspective. For example, if an otherwise nutrient-dense food is contaminated with bacteria, toxic chemicals, or antibiotic, pesticide, or hormone residues, then it becomes less "nutritious."

It's the law

I like to help consumers understand how our national organic standards[1] prohibit the use of irradiation, sewage sludge, synthetic fertilizers, and genetically modified organisms (GMOs). In addition, consumers may not understand that organic farmers don't use antibiotics or growth hormones, and they must feed their animals organic (non-GMO) feed. Plus, because organic farmers are required to give their livestock access to pasture, we can expect organic milk and meat to have higher levels of health-protecting omega-3 fatty acids.[2,3]

Furthermore, organic farming methods are based on building and improving the soil, promoting biodiversity, and protecting our natural resources. Therefore, it stands to reason that healthier ecosystems, higher quality soil and clean water will produce healthier plants, which in turn support healthier animals and humans, not to mention a healthier planet.

Case closed, right? Not so fast. Enter the media, which frames the organic vs. non-organic issue as a "debate." The problem with this frame is that it implies that both sides have equal value, even when the evidence strongly supports one side over the other.

Is it any wonder consumers are confused?

Remember the media frenzy over the Stanford University study? Researchers stated that they wanted to investigate whether organic foods were safer or healthier than conventional alternatives. After reviewing over 200 studies, the investigators concluded that there was "no strong evidence that organic foods are significantly more nutritious than conventional foods." The media ran with this sentiment, and gave consumers reason to doubt the value of organic food and farming.[4]

However, if you had access to the full report, you would have learned that the researchers also concluded that "organic foods may reduce exposure to pesticide residues and antibiotic-resistant bacteria." They also said that "organic milk may contain significantly higher levels of omega-3 fatty acids," and that "organic produce had higher levels of health-protecting antioxidants."

Those conclusions didn't make major headlines, but they indicate nonetheless, that organic offers a safer and healthier option compared to non-organic.

Today, we have an ever-growing arsenal of evidence showing the benefits of organic food and farming.

Healthier and Safer

Reduced exposure to pesticides is a key reason why consumers choose organic food, and they're smart to do so. In 2006, research showed that children consuming organic diets had significantly fewer pesticide residues in their urine, as compared to when they consumed a non-organic diet.[5]

Chuck Benbrook, Ph.D., a research professor and program leader at the Center for Sustaining Agriculture and Natural Resources at Washington State University says that while pesticide residues are rarely found in organic food, "most conventional fruit and vegetable samples contain two to five [pesticide] residues, and in several important crops, about 10% of samples contain eight or more residues."[6]

In 2010, the President's Cancer Panel Report[7] recommended choosing food grown *without* pesticides and chemical fertilizers to reduce our risk for cancer.

The presence of a pesticide residue is just one factor that determines risk, says Benbrook. We have to consider the pesticide's toxicity, additive or synergistic effects with other residues, and the age and health of the person exposed. There's growing evidence that even small amounts of pesticides—well under the Environmental Protection Agency's (EPA) limits—can cause harm to embryos and children. Because of their smaller body size and rapid physical development, children are especially vulnerable to the effects of pesticides and other environmental toxins.[7]

A growing body of research shows that pesticide exposure harms our developing children's brains, and increases their risk for birth defects, ADHD, autism, reduced I.Q., and other neuro-developmental problems.[8-10] We are wise to err on the side of safety, and keep these neurotoxins out of our children's environments.

Organic food and farming reduces risk for antibiotic resistance

According to the Infectious Diseases Society of America, antibiotic resistant infections are one of *the* greatest threats to public health. Because organic livestock are not given antibiotics, they are naturally less likely to harbor and spread antibiotic resistant bacteria. That makes organic meat, poultry, eggs and dairy products both *healthier* and *safer*.

New Research

In July of 2014, we gained even more evidence supporting the multiple benefits

of organic foods, thanks to an extensive international study involving scientists at Newcastle University in the United Kingdom and Washington State University. This time, the researchers analyzed 343 peer-reviewed, high-quality studies, comparing the nutritional differences between organic and conventional crops (fruits, vegetables and cereals).[11]

Their conclusions, published in the prestigious British Journal of Nutrition, stated the following:

* Organic crops and crop-based foods are *significantly* higher in health-protecting antioxidants, and lower in pesticide residues, and the toxic metal cadmium, as compared to conventional;

* Concentrations of antioxidants were between 18-69% higher in organically-grown crops, compared to conventional; and,

* Conventionally grown fruit had the highest frequency of pesticide residues, approximately seven times higher than organic fruit; conventional vegetables and crop-based processed foods had pesticide residues three to four times higher than organic.

Clearly, we have solid evidence showing that organic foods deliver more bang for our buck. And what mother wouldn't want to feed her children higher nutrient foods, while reducing their exposure to pesticide residues and other toxins?

Bottom line

Organic food and farming offers multiple health benefits to farmers, consumers and our larger communities, including the protection of groundwater and drinking water from pesticides and nitrate contamination.

However, many factors affect a food's nutritional content: seed variety, growing conditions, post harvest handling, storage time and temperature, and finally, consumer handling. We can harvest the most nutritious bunch of organic spinach on earth, but if we let it sit in the hot sun, or in our refrigerator crisper for a week, or overcook it, we can count on losing nutritional quality.

I advise consumers to choose organic food, handle it with care, and support organic farmers. I also encourage conversations between farmers and consumers. We can all benefit from learning more about the vital connection between soil quality, plant, animal and human health.

We can feel confident that if a farming system is better for the Earth, it's better for us too.

For More Information: Hunger and Environmental Nutrition Organic Talking Points www.hendpg.org/docs/organictalkingpoints_2015revision3_final.pdf

Melinda Hemmelgarn, M.S., R.D., the "Food Sleuth®," is a member of the Organic Farming Research Foundation and Midwest Organic and Sustainable Education Service Boards; she is an award-winning write, speaker, and host of nationally syndicated "Food Sleuth Radio" (http://www.prx.org/series/32432-food-sleuth-radio*) She is based in Columbia, MO and can be reached at* foodsleuth@gmail.com.

1. USDA National Organic Program: http://www.ams.usda.gov/AMSv1.0/organicinfo

2. Clancy, Kate. "Greener Pastures: How Grass-Fed Beef and Milk Contribute to Healthy Eating." Union of Concerned Scientists. March 2006.

3. Benbrook, C.M., et al., "Organic Production Enhances Milk Nutritional Quality by Shifting Fatty Acid Composition: A United States-Wide, 18-Month Study. PLOS One, December, 2013. http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0082429

4. Brandt, Michelle. "Little Evidence of Health Benefits from Organic Foods, Stanford Study Finds." *Inside Stanford Medicine.* Stanford School of Medicine. September 2012. http://med.stanford.edu/ism/2012/september/organic.html

5. "Organic Diets Significantly Lower Children's Dietary Exposure to Organophosphorus Pesticides," *Environmental Health Perspectives*, February 2006.

6. Benbrook, Chuck, Ph.D. "Initial Reflections on the *Annals of Internal Medicine* Paper Are Organic Foods Safer and Healthier Than Conventional Alternatives?: A Systematic Review.' Center for Sustaining Agriculture and Natural Resources, Washington State University. Sept. 2012. http://www.tfrec.wsu.edu/pdfs/P2566.pdf

7. President's Cancer Panel Report: "Reducing Environmental Cancer Risk: What We Can Do Now." U.S. Department of Health & Human Services. April 2010. http://deainfo.nci.nih.gov/advisory/pcp/annualreports/pcp08-09rpt/PCP_Report_08-09_508.pdf

8. Bouchard, Maryse F., Ph.D., et. al. "Attention-Deficit/Hyperactivity Disorder and Urinary Metabolites of Organophosphate Pesticides." *Pediatrics*. American Academy of Pediatrics. 17 May 2010. http://pediatrics.aappublications.org/content/early/2010/05/17/peds.2009-3058.abstract

9. Grossman, Elizabeth. "'Organic, Schmorganic' – Unless It's Your Child's Ability To Learn That's Impaired By Pesticides." *The Pump Handle.* ScienceBlogs, LLC.13 September 2012. http://scienceblogs.com/thepumphandle/2012/09/13/organic-shcmorganic-unless-its-your-childs-ability-to-learn-thats-impaired-by-pesticides/

10. Landrigan, Philip; Lambertinis, Luca; and Birnbaum, Linda. "A Research Strategy to Discover the Environmental Causes of Autism and Neurodevelopmental Disabilities." *Environmental Health Perspectives.* 120:7. July 2012. library.constantcontact.com/download/get/file/1102175172120-212/Autism_editorial_final.pdf

11. Baranski et. al., "Higher Antioxidant and Lower Cadmium Concentration, and Lower Incidence of Pesticide Residues in Organically Grown Crops: A Systematic Literature Review and Meta-Analysis" *British Journal of Nutrition*, 2014: http://csanr.wsu.edu/m2m/papers/organic_meta_analysis/bjn_2014_full_paper.pdf

HEN POST DEADLINES AND SUBMISSION GUIDELINES

Submission Guidelines: The *HEN Post* features viewpoints, statements and articles that provide perspective on domestic and international food security, food production and environmental food issues. We also publish descriptions of programs, community intervention, research, legislation, websites or curriculums of interest to our members. We especially seek submissions from our members. These viewpoints, statements and other information do not imply endorsement by HEN and the Academy of Nutrition and Dietetics. Articles may be reproduced for education purposes only after obtaining written permission from HEN, the copyright holder of all published materials unless prior agreement was made.

Submission Deadlines

June 15, 2015 –
Summer 2015

September 15, 2015 –
Fall 2015

December15, 2015 –
Winter 2016

For more specific guidelines on article format, length, referencing and additional information that must accompany articles, see the HEN website – www.hendpg.org. Log in as a member, click on HEN Post and click on Submission Guidelines.

HEN Member Spotlight

HEN Member Spotlight showcases the important work and interesting career paths of HEN members.

Name:
Jasia Steinmetz, PhD, RD, CD

Occupation and Location:
Professor, University of WI – Stevens Point

HEN member since:
The beginning ☺

Would you like to nominate a dietitian for the HEN Member Spotlight? Email Bettina Tahsin at healthy-eating@sbcglobal.net or KC Wright at rocknwoods@gmail.com

Describe your professional role:
As a professor, I am responsible to teach, research and serve. My teaching responsibilities include both undergraduate courses in our dietetics program and graduate courses in our two graduate programs, Community and Organizational Leadership and Nutritional Science-Sustainable and Resilient Food Systems (SRFS). I am coordinator for our SRFS graduate program and program director for the dietetics program. I enjoy working with students with diverse interests and experiences so we can think about our role in the world from different perspectives.

What was your career path….?
During my undergraduate career, I was self-supporting and decided to go on a semester abroad in Poland. This transformed my life in realizing that there was a wealth of knowledge and experiences outside of the U.S. I was hooked on traveling and spent an academic year abroad in India and Malaysia. As I was finishing my undergraduate degree in dietetics, there was a pathway to becoming a RD which included a graduate degree and shorter internship. I opted for this as I was newly married and didn't want to be apart, so we started our family while I was finishing graduate school. After becoming an RD, I worked in clinical practice and then pursued a PhD program so I could work internationally, completing my research in Haiti. I am the first generation in my family to have a college degree and the only one in my family with advanced degrees, much to the pride of my parents who believe I just never wanted to leave school. So planning to complete a graduate degree, much less a doctorate, was not part of my upbringing, but I was able to take advantage of opportunities and guidance of thoughtful mentors. This has taught me to believe in myself and ask for help when I have felt overwhelmed or unsure. While I could not have anticipated the opportunities, I have found that each experience has been valuable for my practice.

How does your work align with the mission of HEN?
Because I have been able to continue international work and travel, I have become adept at systems thinking. In low-income countries, the interface of global economics and politics has a direct effect on local resources and food security for all family members, especially women and children. Low income areas, in any country or community, are the first to feel any changes in access to resource, income or power and these immediately affect a person's ability to be in a safe, healthy and nurturing environment since they have little resiliency to compensate for these changes. HEN has given me an avenue for connecting global, national and local issues and concerns as well as solutions. I believe that the mission of HEN encompasses the reality of the world and that separating our food security from the environment, economic, social, cultural or political systems prevents sustainable solutions, it is a false separation for our communities and one that HEN bridges effectively. I believe that HEN has been using system thinking for a long time, which may be one of the reasons that we may be misunderstood occasionally. The incredible work of our members speaks to the integration of systems, which combined with our critical thinking and assessment skills, is valued by our partners.

What are some challenges you have faced in your career?
I am an introvert in my core and from my first counseling meeting with a patient in clinical practice, I have had to portray a confidence and outgoing nature that I have not always felt. I also feel that it is difficult for women to accept that they are intelligent and skilled. Now that I have accomplished meaningful work and successful parenting, I have found my voice. The challenge is that the world does not always welcome critical thinking or intelligent women or people unafraid to speak. Since I am the first in my family to have this education, I feel a great responsibility. I recognize that those who have an education are able to communicate ideas effectively and to navigate in a world of policy and decision-making. My challenge in my career and as a citizen is to be responsible to those who do not have these resources or opportunities so that our profession and our communities feel empowered to navigate our challenges successfully and fairly. It is in celebrating the biodiversity of life in all of its forms- truly, meaningfully and thoughtfully- that I would like to experience.

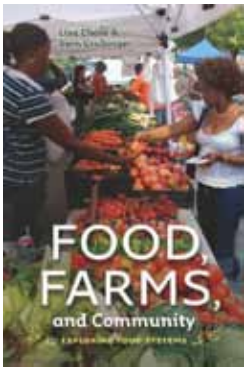
Foods, Farms, and Community: Exploring Food Systems *by Lisa Chase and Vern Grubinger*

Reviewed by Robin Anglin, Dietetic Intern at Virginia Tech and HEN Student Member

Food, Farms, and Community will appeal to both newcomers seeking an overview of food systems, as well as to registered dietitian nutritionists (RDNs) and other health care professionals, food advocates, ecologists, economists, and farmers. This book explores how food systems adapt in response to change, and how food systems may have complex effects on economics, health, social justice, and the environment.

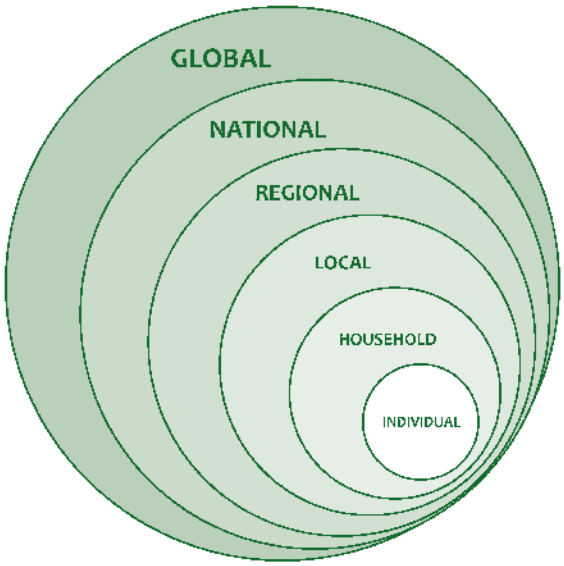
The authors take a systems-based approach to analyze individual parts of a food system—such as the agricultural practices on a single farm—as parts of larger "interactions, cycles, flows, and patterns." Some of the larger patterns analyzed include local foods movements, national policy making, agricultural labor practices, fair trade marketing, and global climate change.

According to authors Chase and Grubinger, this type of part-to-whole analysis can "reveal leverage points for change" within food systems. Their book is comprised of fifteen chapters, including an introductory chapter that provides an overview of food systems models and a conclusion that addresses the central question of how to improve food systems of the future. Through a combination of insightful case studies, statistics, graphs, boxes, and tables, the book paints a clear picture about today's food systems and how they could change to become more sustainable. For instance, the average U.S. household spends $5 per year on direct-to-consumer food purchases, while it spends nearly 50 percent of its food budget on beverages and packaged foods. The book also reveals that of all food produced in the United States, one-third is thrown away, at a retail value of $162 billion.



What if a small portion of money spent on packaged goods could be redirected into healthier purchases from local food systems? Or, if even a fraction of the billions wasted on food could be used to feed the 20 percent of U.S. households with children who are food-insecure? This book explains how others have already successfully implemented these changes. Case studies feature entrepreneurs like Beth and Bob Kennett, who needed to restore economic vitality to their Vermont dairy farm, and did so by opening a world-class bed and breakfast for visiting agritourists. Entrepreneur Karl Kupers helped create *The Shepherd's Grain* brand of wheat flour, connecting farmers who grow wheat sustainably, to consumers who want to know how their flour is produced. In Washington's fertile Skagit Valley, one case study shows how a combination of local advocacy efforts and zoning restrictions have not only prevented a theme park from being constructed on prime farmland, but also preserved 80 percent of the county's total farmlands. With motivational examples like these, Chase and Grubinger plant seeds of change for a more sustainable future.

Food, Farms, and Community demonstrates to readers that local food systems are likely sites for initiating change. In the middle of the food systems hierarchy, local foods interface with larger as well as smaller systems. For instance, increasing transparency about how and where food has been produced at the local level has become a global campaign for better food labels. Thus local food systems are uniquely positioned low enough in the hierarchy to be place-specific, yet high enough that key farming practices and policy characteristics emerge at this level within the food system. Like a good blueprint that provides both conceptual and practical advice, this book shows how to envision as well as how to create changes to the agricultural system. It provides a timely revisionist account of how food systems can be managed.



This diagram shows the levels at which food systems operate. Note that a "web of activities, resources, and people" connect the concentric circles of the food system to one another. Even simple choices, like purchasing a cup of coffee, occur at the intersection of individual, local, and global systems: individually where coffee is purchased by a consumer, locally where the coffee beans are grown, and globally where they are marketed. The true importance of an individual's choices becomes visible when situated within these more global contexts.

2014-2015 executive committee & officers

CHAIR
Dianne Lollar, MPH, RD, LD
Dianne.Lollar@adph.state.al.us

PAST CHAIR
Ashley Colpaart, MS, RD
AshleyRDTX@gmail.com

CHAIR-ELECT
Jasia (Jayne) Steinmetz, PhD, RD
jsteinme@uwsp.edu

SECRETARY
Lisa Dierks, RD, LD
lisamnrd1@gmail.com

TREASURER
Lauren Dinour, DrPH, RD, CDN
LDinour@gmail.com

HEN DPG DELEGATE TO HOUSE OF DELEGATES
Meg Bruening, PhD, MPH, RD
meg.bruening@asu.edu

DPG RELATIONS MANAGER
Jenashay Russell, MPA
jrussell@eatright.org

NOMINATING & AWARDS COMMITTEE
Sara Hanson, RD, LD
(Nominating chair)
Sarelizabeth.hanson@gmail.com

Jenna Thompson, MBA, RD
(Awards chair)
Jenna.Thompson@rosedmi.com

Margaret Wooldridge, RDN, LD
inkwellzz@yahoo.com

Ashley Brice, RDN, LD
ashleymariebrice@gmail.com

MEMBER COMMUNICATION COMMITTEE
Hannah Thornton, MS, RD, LD (Chair)
hannahbthornton@gmail.com

Sarah Phillips, RD, CD (Social Media)
sarahnicole0046@gmail.com

Alexa Shutt, PhD, MPH, RD
(Electronic Mailing List - EML)
alexa865@gmail.com

Alisha Gaines, PhD Candidate (EML)
alisha.b.gaines@gmail.com

Diana Cuy Castellanos, PhD, RD
(Website)
dianacuycastellanos@gmail.com

Jane McKenzie, student (Website)
janemck09@yahoo.com

MEMBERSHIP COMMITTEE
Amanda Schroeder Hege RDN (Chair)
amanda.s.hege@gmail.com

Amber Hansen, MS, RD (New Members)
amberhansen.rd@gmail.com

Hannah Ballou, Student
(Student Members)
hjballou@gmail.com

Alisha Gaines, PhD Candidate
(Student Members)
alisha.b.gaines@gmail.com

Elizabeth Lee, MS, RD (Mentorship)
Elizabeth.ls.lee@gmail.com

Helen Lane, PhD, RD (Mentorship)
helenwlane@comcast.net

Kathryn Hopkins, Student (Mentorship)
khopkins44@gmail.com

Carol Buhrman MS, RD
(HEN Historian)
carolincambodia@gmail.com

PUBLIC POLICY COMMITTEE
Sarah Trist, MS, RD, LDN (Chair)
sarah.trist@gmail.com

Erin Meyer, RD (Assistant)
ecmrd1@gmail.com

EXTERNAL RELATIONS COMMITTEE
Jessica Avasthi, MS, RD, LD (Chair)
jess.avasthi@gmail.com

Melinda Hemmelgarn, MS, RD
(Sponsorship Ambassador)
foodsleuth@gmail.com

Carol Buhrman, MS, RD
(Friends of HEN Assistant)
carolincambodia@gmail.com

EDUCATION COMMITTEE
Megan Patton-Lopez, PhD, RD
(Co-chair)
patton.megan@gmail.com

Lynn Monahan, DCN, MPH, RDN, LDN
(Co-chair)
lmonahan@wcupa.edu

Emily Kujawa, MPH, RD (Webinar)
eakujawa@gmail.com

Laura Hopkins MSPH, RD, LD
(Webinar Assistant)
hopkins.laurac@gmail.com

Lacy Stephens, Student
(Speaker Bureau)
lacy_stephens@rocketmail.com

Marie Boyle, PhD, RD
(JHEN Editor)
mboyle01@cse.edu

Helen Costello MS, RD, LD
(JHEN Liaison)
helencostello@comcast.net

Bettina Tahsin, RD, LDN, CDE
(Newsletter co-chair)
healthy-eating@sbcglobal.net

KC Wright, MS, RDN, LD
(Newsletter co-chair)
rocknwoods@gmail.com

FOOD SECURITY TASK FORCE CO-CHAIRS
Laura Holtrop Kohl, MS, RD, CD
lauraholtrop@gmail.com

Alison B. Kaufman, MS, RD, LDN
akaufman@jfcsboston.org

FILM FESTIVAL CHAIR
Melinda Hemmelgarn, MS, RD
foodsleuth@gmail.com

FOOD AND SPIRITUALITY CHAIR
Kelly Moltzen, MPH, RD
kellym41122@yahoo.com

SCHOOL TO FARM CHAIRS
Amy Paxton Aiken, MPH, RD, LD
aepaxton@gmail.com

Amanda Gallaher, MPH
acgallaher@gmail.com

Lindsay Ganong, RDN, LD
lrganong@gmail.com

ORGANIC TALKING POINTS CHAIR
Erin Kennedy, MS, RD
ekennedy1984@gmail.com