



AMERICAN PUBLIC HEALTH ASSOCIATION

*For science. For action. For health.*

May 8, 2015

The Honorable Sylvia Burwell  
Secretary of Health and Human Services  
200 Independence Avenue, SW  
Washington, DC 20201

The Honorable Tom Vilsack  
Secretary of Agriculture  
1400 Independence Avenue, SW  
Washington, DC 20250

SUBMITTED VIA:

<http://www.health.gov/dietaryguidelines/dga2015/comments/writeComments.aspx>

Dear Secretaries Burwell and Vilsack:

On behalf of the American Public Health Association, a diverse community of public health professionals who champion the health of all people and all communities, I thank you for the opportunity to provide comments on the 2015 Dietary Guidelines Advisory Committee's scientific report. APHA appreciates the efforts of the U.S. Department of Health and Human Services and U.S. Department of Agriculture in encouraging Americans to consume a healthful diet at different stages of life and identifying ways to assure that healthy foods are accessible to all people at all income levels. We commend the committee members and USDA and HHS staff for their countless hours spent and commitment to scientific rigor in reviewing the evidence related to the numerous questions that informed the 2015 DGAC report. We are pleased to have the opportunity to provide comments on the report regarding dietary patterns, environmental strategies, physical activity and sustainability.

The Dietary Guidelines for Americans have played a vital role in upgrading the nutritional standards of federal food assistance programs and supporting comprehensive nutrition promotion efforts to advance public health. The guidelines are the cornerstone of food and nutrition policy and communications. Therefore, we encourage HHS and USDA to use these findings and go further by making strong, action-oriented recommendations that celebrate cultural and ethnic diversity, and increase the likelihood that more Americans adopt the dietary guidelines as their way of eating.

APHA supports the work of the 2015 DGAC and offers the following suggestions for emphasis in the 2015 Dietary Guidelines for Americans:

1. Nutrition-related health inequities and food insecurity should receive attention in all recommendations. While the social-ecological approach was expanded beyond its initial mention in the 2010 DGA, the 2015 DGAC report stated that it could not address broader contributors such as demographic, societal, business and systems factors. For public health purposes, these categories of determinants should be considered in the final recommendations.
2. Strong emphasis should be placed on what constitutes a recommended portion size for protein foods, grain goods, dairy and non-dairy foods, fruits, vegetables and beverages. Pictorial representations of foods would be particularly useful. Additionally, portion sizes with illustrations of recommended portions should be included in the dietary guidelines.
3. More emphasis should be given to the caloric content of foods and the proportional increases of calories with increased serving sizes. Denoting the amount of physical activity needed to expend the calories in sugar-sweetened beverages, sugary snacks and rich desserts would help individuals better understand the tradeoffs.
4. The final 2015 DGA should offer practical suggestions for daily and weekly dietary patterns and food groupings at meals that help achieve eating more fruits, vegetables, whole grains, low saturated fat and plant-based protein foods, and low fat dairy or non-dairy substitutes.
5. Advice should be provided on how to follow these dietary patterns while selecting foods outside of the home as well as prepared foods.
6. Recommendations should focus on patterns and meal/snack components instead of individual nutrients that can be added or subtracted to foods without improving overall diets. The guidelines should identify the use of minimally processed foods without added sugar, sodium and saturated fat that can be substituted for sugar-sweetened beverages, sweet and salty snacks, and desserts with added sugar and saturated fat. The committee made recommendations for replacement foods, such as polyunsaturated oils that help reduce saturated fats in the diet.
7. The final 2015 guidelines should make strong recommendations for the availability of comprehensive, multi-level nutrition education for consumers to facilitate adoption of the dietary guidelines by all Americans, and for adequate technical assistance for food service providers to implement nutrition standards that adhere to the guidelines throughout schools, child care centers and work places, as recommended by the committee. Include recommendations on public relations incentives such as recognition and awards for the private industry to accelerate positive shifts in product reformulation, packaging, advertising and pricing in the commercial marketplace.
8. Provide examples of multi-component approaches that combine dietary and physical activity strategies to help prevent obesity and chronic diseases in schools, child care centers, worksites and other organized settings like retail food stores, restaurants and social, civic and service organizations.
9. Dietary guideline recommendations should embrace the economic, lifestyle and cultural differences among Americans. The focus should be on improving existing habits rather than adoption of new behaviors that are not affordable, accessible or realistic for families with limited income, time, kitchen storage, preparation space and transportation. Recommendations should avoid dietary guidance that leads to the adoption of unhealthy mainstream dietary patterns but rather maintain healthy traditions as part of the acculturation process.
10. Recommendations should recognize the lower language and nutrition literacy of many groups that are at high risk of nutrition-related chronic diseases by making the

recommendations simple, clear and adoptable. Providing other formats for information, such as in-language and visual delivery by trusted authorities, will help increase the uptake of recommended practices.

11. Recommendations should emphasize the urgency of comprehensive, nationwide action by highlighting the many societal costs of our nation's poor progress in healthy eating and cite the many co-benefits of adopting stronger nationwide approaches. Longer term, the criteria used by USDA's Nutrition Evidence Analysis should be updated to recognize public health approaches that are often applied ahead of settled science and may not lend themselves to experimental research design.

## **Foods, Nutrients and Dietary Patterns**

### **a. Dietary Patterns versus Individual Nutrients or Single Foods**

APHA concurs with the DGAC recommendation that emphasis should be placed on overall dietary patterns rather than individual foods or nutrients and on including more examples of healthy patterns that reflect the growing diversity of cultural and ethnic foods in the U.S. By providing recommendations that are easily incorporated into the daily routine for people at all income levels, all stages of life and all points of diversity, use of the dietary guidelines may significantly improve. Food is a bridge to cultural understanding; therefore, APHA recommends that more attention be given to Asian, Latin and African dietary patterns to ensure that these growing U.S. populations can find useful advice in the 2015 DGA. Additionally, it may contribute to the diffusion of these cuisines into the U.S. cuisine offering new kinds of healthy choices. Recommendations for fruits and vegetables should reference a wide-variety of culturally appropriate selections. Non-dairy substitutes such as soymilk should be referenced for good sources of calcium and protein in the dairy group.

The recommended culturally-diverse dietary patterns should share core elements, namely higher intakes of vegetables, fruits, whole grains and diverse sources of calcium, dietary fiber, potassium and vitamin D for all Americans and of iron, especially for adolescent and premenopausal women. Diverse patterns should also incorporate recommended portion sizes for high quality protein sources such as more fish, soy foods, legumes and nuts and less full-fat red meat and processed meats, and healthy oils that provide more monounsaturated and polyunsaturated fats compared to saturated fats. Likewise, specific advice, portion control and meal options should be provided to lower caloric intake and to replace foods high in saturated fat, sodium and sugar with foods with lower amounts of these nutrients, such as processed meats, sugar-sweetened beverages, desserts and snacks.

### **b. Portion Sizes**

APHA recommends that the new guidelines urge the food industry and food service operations to offer smaller portions of beverages that provide calories without nutritional value and foods with nutrients that should be consumed at lower quantities. With mixed public response to policies restricting portion size, DGA could recommend adding examples of physical activity needed to expend the calories contained in a food. For example, a menu items like a white chocolate mocha and cinnamon scone with 1,000+ calories would display this calorie amount along with a picture and/or notation of the number of hours of walking needed to burn off the calories. Another

approach would be to more clearly show the number of standard servings that each package contains.

### **c. Whole Foods in All Forms without Adding Sugar, Sodium, Saturated Fat or Trans Fat**

APHA supports the DGAC recommendation that nutrient needs should be met primarily by consuming nutrient-dense, whole foods as part of an overall healthy dietary pattern. The 2015 DGA should be sensitive to limited income, time and preparation resources such as storage space and equipment. People need to know how to select pre-prepared and processed foods with less sugar, saturated fat and sodium. Fruits and vegetables of any form that are produced with no added sugar and fat, and very little sodium or other preservatives, can help stretch family or individual budgets, be stored for extended periods and require minimal preparation when time is limited. DGA could identify specific items that fall into categories of minimally processed foods such as, but not limited to, whole grain-rich pasta; brown rice; whole grain crackers; canned legumes, fish or poultry; nut butters; and frozen, canned or dried fruits and vegetables without added fat, sugar or sodium. APHA recognizes that this recommendation may also require practical advice, education and skill development to translate the principles into daily life habits, such as draining or rinsing canned foods before using to reduce sodium.

#### Saturated Fat

APHA agrees with the DGAC report to retain the goal for the general population of consuming less than 10 percent of total calories from saturated fat per day. The guidance should be further enhanced by providing specific examples of food alternatives to achieve this goal.

#### Trans Fats

The 2010 Dietary Guidelines Scientific Report recommended “avoiding *trans* fatty acids from industrial sources leaving small amounts from natural sources.” In the 2015 DGA, APHA recommends keeping the current advice to limit all sources of *trans* fat, and extend the recommendation to advise Americans to check ingredient lists and avoid consuming foods that contain partially hydrogenated oil—the main source of artificial *trans* fat. APHA urges that the DGA recommend that restaurants and food manufacturers substitute oils with low *trans* and saturated fat content and avoid replacing them with solid fats such as coconut and palm oil which are high in saturated fat. For individuals, we also recommend that HHS and USDA include a list of the main sources of synthetic *trans* fats in Americans’ diets and recommend substitutes, such as fruits and vegetables, in place of fried snacks.

#### Sodium

Like saturated fat, the new DGA should make specific recommendations for food substitutions and preparation practices that can lower dietary sodium. APHA supports the DGAC recommendation that “adults who would benefit from blood pressure lowering should consume no more than 2,400 mg of sodium/day. Further reduction of sodium to 1,500 mg/d can result in even greater reduction in blood pressure”. APHA also supports

the DGAC recommendation to follow the Dietary Approaches to Stop Hypertension diet, along with reducing sodium.

While recognizing that individuals play a role in reducing their sodium consumption, APHA recommends that the 2015 DGA strongly urge the food and restaurant industries to gradually reduce the sodium in their products while adding flavor with herbs, spices and fruit juices as the most effective way to reduce sodium in the out-of-home food supply. At the same time, it is important to continue providing education for consumers to better understand nutrition labels on food packages so that they can identify sodium content in their foods and ask restaurants to prepare foods without salt. In addition, with the relatively rapid emergence of new research in this area, it is crucial to set up mechanisms to regularly monitor the science that can affect policy and program management. Surveillance systems are critical and should be among the implementation actions highlighted in the 2015 DGA.

### Added Sugar

APHA is concerned with continued emphasis on any one food component. Emphasis on ‘added sugars’ may distract consumers from the more important issues of total calories, large portion sizes and sugar-sweetened beverages with high calorie content but no nutrients. As we have seen in the past, when one nutrient like total fat becomes the focus, food manufacturers produce lower fat foods that are not necessarily lower in calories. Likewise, the emphasis on *trans* fats has led many food manufacturers and restaurants to simply substitute an oil or solid fat that is high in saturated fat instead of replacing the *trans* oil with a healthier oil. Similarly, it is possible to replace added sugars with another component and not reduce total calories. Little testing has been conducted to understand consumer knowledge of the meaning of added sugars or to show changed food choices related to added sugars. Therefore, APHA recommends that the DGA take a more comprehensive approach by considering total calories from all sources including sugars; fats; protein; alcohol; and portion sizes, not solely a limited focus on added sugars that may have a negative unintended consequence on food options and consumption. The new guidelines should highlight that the current Nutrition Facts panel lists sugar as well as other nutrients which is helpful for identifying foods with ‘empty calories’, a term suggested by the committee, which may be useful in referring to foods such as sugar-sweetened beverages, candy, sweetened desserts and snacks.

### Cholesterol

APHA acknowledges that the average cholesterol consumption of Americans is less than 300 mg, leading DGAC to conclude that “Cholesterol is not a nutrient of concern for overconsumption.” However, given the tremendous confusion related to the meaning of this finding, APHA recommends the 2015 DGA bring forward the following language from the 2010 DGA regarding cholesterol:

*Dietary cholesterol has been shown to raise blood LDL cholesterol levels in some individuals. However, this effect is reduced when saturated fatty acid intake is low, and the potential negative effects of dietary cholesterol are relatively small compared to those of saturated and trans fatty acids. Moderate evidence shows a relationship between*

*higher intake of cholesterol and higher risk of cardiovascular disease. Independent of other dietary factors, evidence suggests that one egg (i.e., egg yolk) per day does not result in increased blood cholesterol levels, nor does it increase the risk of cardiovascular disease in healthy people. Consuming less than 300 mg per day of cholesterol can help maintain normal blood cholesterol levels. Consuming less than 200 mg per day can further help individuals at high risk of cardiovascular disease.*

#### **d. Drinking water should be recommended as a beverage of choice**

To strengthen the recommendation for drinking water made in the 2015 DGAC report, APHA strongly urge HHS and USDA to:

- Include strong language in the 2015 DGA regarding plain tap water as the primary beverage of choice and a key substitute for sugar-sweetened beverages including sodas, juice drinks, pre-sweetened tea and coffee drinks, sports drinks and energy drinks to help reduce intake of calories from added sugars;
- Encourage policy changes that ensure ready access to clean, safe and tasty tap water in homes, schools, childcare facilities, worksites, recreation facilities and other settings;
- Recommend public education and promotional activities to encourage Americans to turn to water as their preferred beverage; and
- Add a symbol for water as part of the MyPlate graphic.<sup>1</sup> This addition would allow MyPlate to promote water consumption along with its other healthy eating messages, and align well with the efforts of other states, municipalities and organizations to raise public awareness about the benefits of drinking water and reduce consumption of sugar-sweetened beverages.

Other science-based organizations, such as the Institute of Medicine's Committee on Accelerating Progress in Obesity Prevention,<sup>2</sup> Centers for Disease Control and Prevention<sup>3</sup> and the American Heart Association's Voices for Healthy Kids,<sup>4</sup> also recognize the importance of water in chronic disease prevention and have called for community-wide improvements in access to drinking water.

Water is an essential nutrient<sup>5</sup> and a zero calorie beverage with virtually no adverse effects.<sup>6</sup> Low intake of plain water is associated with poor dietary quality and physical inactivity in youth. Between 2005 and 2010, 28 percent of children ages 4-13 years old in the U.S. did not drink any

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<sup>1</sup> Ritchie, L., et al. (2014). Letter to Chairwoman Millen and Members of the Dietary Guidelines Advisory Committee, September 10, 2014. Retrieved from [www.npi.ucanr.edu/files/207504.pdf](http://www.npi.ucanr.edu/files/207504.pdf)

<sup>2</sup> Institute of Medicine. (2012). Accelerating progress in obesity prevention: Solving the weight of the nation. Washington, DC: The National Academies Press.

<sup>3</sup> Centers for Disease Control and Prevention. (2014). Water & Nutrition. Retrieved from <http://www.cdc.gov/healthywater/drinking/nutrition/>

<sup>4</sup> American Heart Association. (2015). Voices for healthy kids: Healthy drinks. Retrieved from [http://www.heart.org/HEARTORG/Advocate/Voices-for-Healthy-Kids--Healthy-Drinks\\_UCM\\_460610\\_SubHomePage.jsp](http://www.heart.org/HEARTORG/Advocate/Voices-for-Healthy-Kids--Healthy-Drinks_UCM_460610_SubHomePage.jsp)

<sup>5</sup> National Research Council. (2005). Dietary Reference intakes for water, potassium, sodium, chloride and sulfate. Washington, DC: The National Academies Press.

<sup>6</sup> Popkin, B.M., Armstrong, L.E., Bray, G.M., Caballero, B., Frei, B., & Willett, W.C. (2006). A new proposed guidance system for beverage consumption in the United States. *The American Journal of Clinical Nutrition*, 83(3), 529-542.

plain water on two consecutive days.<sup>7</sup> Adequate hydration is important for the proper function and regulation of the kidneys and heart, thus affecting heart rate, blood pressure, vaso-vagal response, lipid regulation, removal of body waste products and thermoregulation. Good hydration also supports mental concentration, mood, skin health, helps prevent headaches and lubricates joints.<sup>8</sup> In addition to water, hydration can come from many non-calorie sources, such as plain teas, sparkling water, ‘spa’ or infused waters and plain coffees.

#### **e. Shortfall Nutrients**

APHA recommends considering the fortification of staple foods when the population-wide intake of key nutrients such as vitamin D, iron and calcium cannot practically be provided through recommended healthy patterns. The foods that are selected should be specific and appropriate for the population segments at risk.

#### **f. Alcohol**

Alcohol contributes a significant amount of calories to the diets of many Americans. Therefore, the 2015 DGA should clearly provide serving sizes and caloric content of a variety of alcoholic beverages, including lower calorie beers. APHA supports retaining the recommendations regarding the maximum number of drinks for adult males and females.

### **Food Environment and Public Policy**

While individuals need to understand how to implement the dietary guidelines, they also need environments that make healthy dietary and physical activity choices easier. A growing body of evidence from community projects funded through CDC and USDA shows that strong, long-term, comprehensive, multi-level efforts that engage community members, non-profit and business sectors in a systems approach to advance healthy choices is necessary. APHA has long supported government leadership in nutrition guidelines and strategies for the purpose of protecting public health through dissemination of evidence-based guidance in dietary intake and physical activity<sup>9,10</sup> and offers the following recommendations for the 2015 DGA:

1. Encourage and provide support for public participation in the development of policies and strategies that support healthier food systems and people-powered transportation;
2. Provide consumer information that increases public awareness and understanding of the benefits of healthy eating and physical activity at appropriate literacy levels. Information should include foods representative of diverse cultures, provide accurate and frequent

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<sup>7</sup> Drewnowski, A., Rehm, C.D., & Constant, F. (2013). Water and beverage consumption among children age 4–13y in the United States: analyses of 2005–2010 NHANES data. *Nutr J*, 12(1), 85.

<sup>8</sup> Park, S., Blanck, H.M., Sherry, B., Brener, N., & O’Toole, T. (2012). Factors associated with low water intake among US high school students—National Youth Physical Activity and Nutrition Study, 2010. *Journal of the Academy of Nutrition and Dietetics*, 112 (9), 1421-1427.

<sup>9</sup> American Public Health Association. (2005). Supporting the WHO global strategy on diet, physical activity and health. Retrieved from <http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/03/08/14/supporting-the-who-global-strategy-on-diet-physical-activity-and-health>

<sup>10</sup> American Public Health Association. (2006). Urgent call for a nationwide public health infrastructure and action to reverse the obesity epidemic. Retrieved from <http://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/07/13/47/urgent-call-for-a-nationwide-public-health-infrastructure-and-action-to-reverse-the-obesity-epidemic>

- messaging, and incorporate product labeling that easily explains better food choices as recommended by the IOM front-of-package nutrition rating systems and symbols;<sup>11</sup>
3. Encourage coordination across federal programs to increase the nutritional quality of food programs through the implementation of standards that offer more under-consumed nutritious foods, encourage the consumption of affordable, nutrient dense foods and remove barriers to obtaining culturally appropriate and locally-produced foods;
  4. Add strong, comprehensive nutrition education efforts for all nutrition assistance programs to increase the demand for healthy foods;
  5. Strengthen the reporting systems for nutrition assistance programs to improve the timeliness, transparency and usability of data for local and state planning;
  6. Encourage public and private measures to build on nutrition assistance programs at federal, state and local levels to help diversify the nation's food systems and better support local agriculture, and provide healthy, fresh food, locally produced where possible;
  7. Encourage federal policies, product labeling, advertising and marketing that promote healthy foods, recognition for businesses that follow industry best practice standards for food marketing to children and recommend complementary local policies that support and recognize positive business practices;
  8. Call for agricultural policies that protect and promote public health including the promotion of under-consumed nutritious foods;
  9. Encourage local, state, federal and tribal governments to develop strategies that decrease the price and increase the uptake of high quality fresh fruits, vegetables, low and non-fat milk, whole grains and drinking water;
  10. Call for an upgrade to surveillance systems at the local, state and tribal level to include ongoing reporting of relevant population trends and effective marketing, policy, systems and environmental practices that can guide practical program efforts to positively impact food insecurity, obesity and chronic disease rates in the general population and among subgroups that experience health inequities;
  11. Highlight the importance of public funding and encourage private investment in applied research to identify and disseminate practical approaches, policies and resources to encourage physical activity, healthy eating and consumers' ability to recognize marketing practices aimed at increasing the purchase of less nutritious foods;
  12. Support organizations including schools, work places, civic, social and faith-based organizations to provide and promote nutritious food choices and offer opportunities to be physically active;
  13. Support training and technical assistance for local efforts that improve the built environment through policies and other strategies that improve access to healthy food and safe physical activity such as land use and zoning laws, lot preservation, community support agencies, redevelopment and support for food outlets that provide access to nutritious foods such as supermarkets, grocery stores and restaurants, and alternatives like farmers' markets, community-supported agriculture and mobile vendors;
  14. Develop clinical strategies that engage multi-disciplinary teams of health professionals and community leaders to educate on chronic disease prevention, screen and refer at-risk individuals to health care and preventive services; and

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<sup>11</sup> Institute of Medicine. (2011). Front-of-package nutrition rating systems and symbols: Promoting healthier choices. Washington, DC: The National Academies Press.

15. Urge federal, state and private insurers to implement and reimburse cost-effective clinical strategies related to nutrition and physical activity.

## **Physical Activity**

APHA urges that the 2015 DGA strengthen its emphasis on physical activity as a lifestyle integrally related to good nutrition, obesity and disease prevention by including recommendations from the 2010 *National Physical Activity Plan*<sup>12</sup> and IOM report, *Educating the Student Body, 2013*:<sup>13</sup>

1. Updating the 2008 Physical Activity Guidelines listed in table 2-5 of the 2010 dietary guidelines, if necessary, and providing more of the science about the role of physical activity in promoting and maintaining good health, preventing and managing chronic disease, fostering healthier communities and other co-benefits;
2. Developing a section on 'building lifestyle patterns for active living' that could parallel recommendations in chapter 5, *Building Healthy Eating Patterns*, of the 2010 DGA;
3. Further developing chapter 6, *Helping Americans Make Healthy Choices*, of the 2010 DGA by summarizing the Call to Action by the eight societal sectors delineated in the *National Physical Activity Plan* and integrating them with a nutritious diet in sectors such as: business and industry; education; health care; mass media; parks, recreation, fitness and sport; public health; transportation, land use and community design; and volunteer and non-profit organizations;
4. In an appendix, incorporate the overarching strategies in the *National Physical Activity Plan* and relevant recommendations in *Educating the Student Body*; and
5. Ensure that any physical activity recommendations include low- and no-cost options and policies that ensure safe routes to school, work and sport, with safe neighborhood spaces for physical activity and an active lifestyle, and accommodation for people with limited physical abilities and economic resources.

## **Inclusion of Sustainability in Federal Dietary Guidance**

APHA strongly supports the DGAC report finding that, “a diet higher in plant-based foods and lower in calories and animal-based foods is more health promoting and is associated with less environmental impact than is the current U.S. diet.” APHA commends DGAC for setting a priority of sustainability as an important component of the 2015 federal dietary guidance. Diet is one part of a larger system of environmental, social and economic sustainability. APHA has a long history of promoting evidence-based public health policies related to nutrition and the food system, and has previously endorsed the inclusion of sustainability in federal dietary guidance.<sup>14</sup>

APHA concurs with the sustainable dietary pattern that promotes higher intake of fruits, vegetables, legumes, whole grains, legumes, nuts and seeds, and lower intake of sugars, saturated

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<sup>12</sup> National physical activity plan. (2010). Retrieved from <http://www.physicalactivityplan.org/NationalPhysicalActivityPlan.pdf>

<sup>13</sup> Institute of Medicine. (2013). *Educating the student body: Taking physical activity and physical education to school*. Washington, DC: The National Academies Press. Retrieved from [www.iom.edu/studentbody](http://www.iom.edu/studentbody)

<sup>14</sup> American Public Health Association. (2007). *Toward a healthy sustainable food system*. Retrieved from <http://apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/29/12/34/toward-a-healthy-sustainable-food-system>

fat, sodium and animal products, especially, red and processed meats. Diets high in plant-based foods provide essential amino acids, antioxidants, phytochemicals and fiber, and appropriate amounts of the committee's nutrients of concern for under-consumption, including vitamin A, vitamin C, vitamin E, calcium, magnesium, potassium and folate.<sup>15,16</sup> DGAC also found that sustainable dietary patterns are comparable to usual dietary patterns in terms of affordability.<sup>17,18,19</sup> APHA agrees with the DGAC report finding that a sustainable diet neither calls for the elimination of any particular food group, nor does it advocate for specific dietary patterns over others.

### Inclusion of Sustainability is Evidence-Based, Appropriate and Timely

The inclusion of sustainability is appropriate given DGAC's<sup>20</sup> past consideration of contextual factors related to dietary guidance, such as food safety, food affordability and sedentary behavior: "Population growth, availability of fresh water, arable land constraints, climate change, current policies, and business practices are among some of the major challenges that need to be addressed in order to ensure that these recommendations can be implemented nationally." These findings were based on a rigorous assessment of the growing body of peer-reviewed research and also correspond with reports on sustainability and nutrition that have been published by domestic non-governmental organizations such as IOM,<sup>21</sup> the Academy of Nutrition and Dietetics<sup>22</sup> and the National Research Council.<sup>23,24</sup>

### Robust Evidence Supports the Nutritional and Environmental Benefits of Plant-based Diets

APHA agrees that there is strong evidence for a plant-based diet, based on the review of fifteen studies published between 2003 and 2014, and additional peer-reviewed studies published since the close of DGAC's analysis.<sup>25,26,27,28</sup>

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<sup>15</sup> Phillips, F. (2005). Vegetarian nutrition. *Nutrition Bulletin*, 30: 132–167.

<sup>16</sup> Cullum-Dugan, D., Pawlak, R. (2015). Position of the Academy of Nutrition and Dietetics: Vegetarian diets. *J Acad Nutr Diet*, 115(5):801-810.

<sup>17</sup> Barosh, L., Friel, S., Engelhardt, K., & Chan, L. (2014). The cost of a healthy and sustainable diet--who can afford it? *Aust N Z J Public Health*, 38(1):7-12.

<sup>18</sup> Macdiarmid, J.I., Kyle, J., Horgan, G.W., Loe, J., Fyfe, C., Johnstone, A., et al. (2012). Sustainable diets for the future: Can we contribute to reducing greenhouse gas emissions by eating a healthy diet? *Am J Clin Nutr.*, 96(3):632-9.

<sup>19</sup> Wilson, N., Nghiem, N., Ni Mhurchu, C., Eyles, H., Baker, M.G., & Blakely, T. (2013). Foods and dietary patterns that are healthy, low-cost, and environmentally sustainable: A case study of optimization modeling for New Zealand. *PLoS One*, 8(3):e59648.

<sup>20</sup> U.S. Department of Agriculture and Department of Health and Human Services. (2010). Scientific Report of the 2010 Dietary Guidelines Advisory Committee.

<sup>21</sup> Pray, L. (Ed.). (2014). Sustainable diets: Food for healthy people and a healthy planet: Workshop summary. National Academies Press.

<sup>22</sup> Nordin, S. M., Boyle, M., & Kemmer, T. M. (2013). Position of the Academy of Nutrition and Dietetics: Nutrition security in developing nations: Sustainable food, water, and health. *Journal of the Academy of Nutrition and Dietetics*, 113(4), 581-595.

<sup>23</sup> National Research Council. (2009) Committee on a new biology for the 21st century: Ensuring the United States leads the coming biology revolution. Washington, D.C.: National Academies Press.

<sup>24</sup> National Research Council. (2012). Committee on food security for all as a sustainability challenge. A sustainability challenge: Food security for all: Report of two workshops. Washington, D.C.: National Academies Press.

<sup>25</sup> Rööös, E., Karlsson, H., Witthöft, C., & Sundberg, C. (2015). Evaluating the sustainability of diets—combining environmental and nutritional aspects. *Environmental Science & Policy*, 47, 157-166.

The substantial body of research referenced in the DGAC report relies on a variety of high quality research methods. Several studies referenced in the DGAC report used robust measures of health and nutrition, such as validated dietary indices (e.g., USDA's Healthy Eating Index and Brazilian Healthy Eating Index), widely-accepted indicators of nutritional quality (e.g., energy density, levels of saturated fat and free sugars), and definitive nutrition-related health outcomes (e.g., modeled deaths delayed/averted, reduced risk of cancer and chronic disease).<sup>29,30,31,32,33</sup> Similarly, the environmental outcomes included in this body of research rely on high-quality life cycle assessment, modeling methods and mathematical optimization techniques to show that diets can be developed that would improve both health and sustainability when compared to current diets. Reducing the content of meat in the average diet was of substantial environmental advantage.<sup>34</sup> In the United States, moving to a diet based on the dietary guidelines and decreasing caloric intakes to recommended levels would result in a small reduction in greenhouse gas emissions.<sup>35</sup> In a recent dose-response meta-analysis, red meat and processed meat consumption was significantly associated with all-cause mortality,<sup>36</sup> whereas reductions of animal foods or red meat products, showed substantial reductions in greenhouse gas emissions, as well as mortality from chronic diseases, based on simulations of dietary scenarios.<sup>37</sup>

In the United Kingdom, MacDiarmid and colleagues developed a sustainable diet that met dietary guidelines for health and reduced greenhouse gas emissions, by reducing, but not eliminating, meat and dairy products.<sup>38</sup> A similar optimization approach found that meeting recommendations for healthy diets would also result in substantial improvements in greenhouse

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<sup>26</sup> Berry, E. M., Dernini, S., Burlingame, B., Meybeck, A., & Conforti, P. (2015). Food security and sustainability: can one exist without the other? *Public health nutrition*, 1-10.

<sup>27</sup> Auestad, N., & Fulgoni, V. L. (2015). What current literature tells us about sustainable diets: Emerging research linking dietary patterns, environmental sustainability, and economics. *Advances in Nutrition: An International Review Journal*, 6(1), 19-36.

<sup>28</sup> Alsaffar, A. A. (2015). Sustainable diets: The interaction between food industry, nutrition, health and the environment. *Food Science and Technology International*.

<sup>29</sup> de Carvalho, A.M., Cesar, C.L., Fisberg, R.M., & Marchioni, D.M. (2013). Excessive meat consumption in Brazil: diet quality and environmental impacts. *Public Health Nutr*, 16(10):1893-9.

<sup>30</sup> Pradhan, P., Reusser, D.E., & Kropp, J.P. (2013). Embodied greenhouse gas emissions in diets. *PLoS One*, 8(5):e62228.

<sup>31</sup> Vieux, F., Soler, L.G., Touazi, D., & Darmon, N. (2013). High nutritional quality is not associated with low greenhouse gas emissions in self-selected diets of French adults. *Am J Clin Nutr*, 97(3):569-83.

<sup>32</sup> van Dooren, C., Marinussen, M., Blonk, H., Aiking, H., & Vellinga, P. (2014). Exploring dietary guidelines based on ecological and nutritional values: A comparison of six dietary patterns. *Food Policy*, 44(0):36-46.

<sup>33</sup> Peters, C.J., Wilkins, J.L., & Fick, G.W. (2007). Testing a complete-diet model for estimating the land resource requirements of food consumption and agricultural carrying capacity: The New York State example. *Renewable Agriculture and Food Systems*, 22(2):145-53.

<sup>34</sup> Saxe, H. (2014). The New Nordic Diet is an effective tool in environmental protection: It reduces the associated socioeconomic cost of diets. *American Journal of Clinical Nutrition*, 99(5):1117-25.

<sup>35</sup> Heller, M.C., & Keoleian, G.A. (2014). Greenhouse gas emission estimates of U.S. dietary choices and food loss. *Journal of Industrial Ecology*.

<sup>36</sup> Larsson, S.C., & Orsini, N. (2014). Red meat and processed meat consumption and all-cause mortality: A meta-analysis. *Am J Epidemiol*, 179(3):282-9.

<sup>37</sup> Scarborough, P., Allender, S., Clarke, D., Wickramasinghe, K., & Rayner, M. (2012). Modelling the health impact of environmentally sustainable dietary scenarios in the UK. *Eur J Clin Nutr*, 66(6):710-5.

<sup>38</sup> Macdiarmid, J.I., Kyle, J., Horgan, G.W., Loe, J., Fyfe, C., Johnstone, A., & McNeill, G. (2012). Sustainable diets for the future: Can we contribute to reducing greenhouse gas emissions by eating a healthy diet? *American Journal of Clinical Nutrition*, 96(3):632-9.

gas emissions for consumers in France, Spain and Sweden.<sup>39</sup> Researchers in New Zealand developed a number of different diets, including low-cost alternatives that would simultaneously lower greenhouse gas emissions and improve health outcomes for the current average diet.<sup>40</sup> Other research has found a significant reduction in environmental impacts if consumers followed either of two sets of healthy dietary recommendations developed for Germany.<sup>41</sup>

The committee's assessment of research demonstrates that food production and distribution methods associated with healthier diets produce fewer greenhouse gas emissions, are more bio-diverse and require fewer land, water and energy resources. These findings are important given the high level of resources used as inputs for food production in the U.S. – including 50 percent of the total U.S. land area, 80 percent of the fresh water and 10 percent of the fossil energy – and the importance of these resources for future food security.<sup>42,43</sup>

### Seafood Consumption Must Align with Sustainable Production Methods

APHA agrees with the DGAC recommendation that encourages eating lower on the aquatic food chain and consuming a variety of seafood associated with sustainable fishing and farming practices. This is especially important as current federal dietary recommendations would more than double Americans' seafood intake and may dramatically reduce the availability of seafood and threaten future food security.<sup>44</sup> Additionally, contaminants bio-accumulate up the food chain, and therefore, consuming fish lower on the food chain would have the added benefit of lower levels of contaminants.<sup>45</sup>

APHA suggests including the following specific messages in the 2015 DGA:

1. Include a clear statement about reducing food waste on the main dietary guidelines graphic and provide strategies to assist Americans in doing so. An estimated 31 percent to 40 percent of the food supply ends as food waste.<sup>46,47</sup> For example, the Environmental Protection Agency *Food: Too Good to Waste* campaign provides guidance on how to reduce food waste by making a shopping list with meals in mind, eating what you buy,

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<sup>39</sup> Thompson, S., Gower, R., Darmon, N., Vieux, F., Murphy-Bokern, D., & Maillot, M. (2013). A balance of healthy and sustainable food choices for France, Spain and Sweden. Surrey, UK: World Wildlife Fund.

<sup>40</sup> Wilson, N., Nghiem, N., Ni Mhurchu, C., Eyles, H., Baker, M.G., & Blakely, T. (2013). Foods and dietary patterns that are healthy, low-cost, and environmentally sustainable: A case study of optimization modeling for New Zealand. *PLoS ONE*, 8:e59648.

<sup>41</sup> Meier, T., & Christen, O. (2013). Environmental impacts of dietary recommendations and dietary styles: Germany as an example, assessment of the consumption of animal and plant-based foods in Germany. *Environmental Science and Technology*, 47:877–888.

<sup>42</sup> USDA Economic Research Service. (2002). Major uses of land in the United States.

<sup>43</sup> Pimentel, D., & Pimentel, M. (2003). World population, food, natural resources, and survival. *World Futures*, 59:145–67.

<sup>44</sup> Green Nylen, N. (2013). Why federal dietary guidelines should acknowledge the food-choice / Environment nexus: Examining the recommendation to eat more seafood. *Ecology L.Q.*, 40.

<sup>45</sup> Dietz, R., Riget, F., Cleemann, M., Aarkrog, A., Johansen, P., & Hansen, J. C. (2000). Comparison of contaminants from different trophic levels and ecosystems. *Science of the Total Environment*, 245(1), 221-231.

<sup>46</sup> Hall, K.D., Guo, J., Dore, M., Chow, C.C. (2009). The progressive increase of food waste in America and its environmental impact. *PLoS ONE*, 4(11): e7940.

<sup>47</sup> Buzby, J.C., Wells, H.F., Hyman, J. (2014). The estimated amount, value, and calories of postharvest food losses at the retail and consumer levels in the United States. USDA, *Economic Information Bulletin No. (EIB-121)*, 39.

preparing items sooner, buying what you need, and keeping fruits and vegetables fresh through proper storage.<sup>48</sup>

2. Encourage local, state, federal and tribal governments to develop sustainable agriculture policies that promote better alignment of public and private investments that seek to make healthy, sustainably produced foods the affordable and convenient choices.
3. Encourage consumers to choose foods and beverages that are minimally packaged. While processing and packaging is needed for food preservation, reducing unnecessary and excessive materials used primarily for marketing purposes will help decrease the nation's overall energy consumption<sup>49</sup> while aligning with nutritional goals.
4. Recommend that consumers seek out foods produced through sustainable production methods that care for the soil, pollinators and water supplies, and that provide adequate livelihood and good working conditions for farmers and farmworkers.<sup>50</sup>
5. While the DGAC report appropriately emphasizes the healthfulness of seafood consumption, the 2015 DGA should advise consumers to eat products lower on the aquatic food chain like shellfish, sardines, anchovies and herring and refrain from recommending specific species that are associated with harmful fishing or farming practices like shrimp or farmed Atlantic Salmon.<sup>51</sup>
6. Emphasize the variety of foods that provide protein and calcium. The Food and Agriculture Organization estimates that human activity in producing protein in the form of meat, eggs and dairy products uses 70 percent of the world's agricultural land<sup>52</sup> and contributes to 18 percent of all greenhouse gas emissions.<sup>53</sup> Current guidelines recommend plant-based diets. The new guidelines can advance acceptance of plant-based diets by using language and graphics that emphasize alternative protein sources, and by providing consumers with more explicit guidance on how to adopt plant-based diets. For people who consume meat, encourage them to select meat produced without the use of antimicrobials with the exception of treatment for a specific illness. This is important because 80 percent of all antimicrobials sold in the U.S. are used in agriculture.<sup>54</sup> Overuse of agricultural antimicrobials, especially in the absence of a clinical diagnosis, contributes to the evolution and spread of antibiotic resistance, including in human populations.<sup>55</sup>
7. Encourage consumers to eat a diverse array of foods low on the food chain—such as fruits and vegetables—and educate them on the importance of integrating nutritional and

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<sup>48</sup> EPA Region 10 and West Coast Climate and Materials Management Forum. (2012). Food: Too good to waste pilot – Background research report. Environmental Protection Agency.

<sup>49</sup> Cuéllar, A.D., & Webber, M.E. (2010). Wasted food, wasted energy: The embedded energy in food waste in the United States. *Environmental Science & Technology*, 44(16): 6464-6469.

<sup>50</sup> Tilman, D., et al. (2002). Agricultural sustainability and intensive production practices. *Nature*, 418: 671-677.

<sup>51</sup> Dietary Guidelines for Americans, 2015 public comment #149 from Jillian Fry & Dave Love, submitted Nov. 25, 2013.

<sup>52</sup> Steinfeld, H., Gerber, P., Wassenaar, T., Castel, V., Rosales, M., & Haan, C. (2006). Livestock's long shadow: Environmental issues and options. Rome: Food and Agriculture Organization of the United Nations.

<sup>53</sup> Gerber, P.J., Steinfeld, H., Henderson, B., et al. (2013). Tackling climate change through livestock – A global assessment of emissions and mitigation opportunities. Rome: Food and Agriculture Organization of the United Nations.

<sup>54</sup> Food and Drug Administration. 2010 Summary report on antimicrobials sold or distributed for use in food-producing animals. Center for Veterinary Medicine. Retrieved from <http://www.fda.gov/downloads/ForIndustry/User-Fees/AnimalDrugUserFeeActADUFA/UCM277657.pdf>

<sup>55</sup> Van den Boogaard, A.E., & Stobberingh, E.E. (2000). Epidemiology of resistance to antibiotics: links between animals and humans. *International Journal of antimicrobial agents*, 14(4):327-335.

environmental considerations.<sup>56</sup> Additionally, maintaining food biodiversity makes it possible to conserve variation in the nutritional content of the food crops that comprise our plant-based diets, and thus is essential as we work to adapt our food system to future environmental stressors like climate change.<sup>57</sup>

APHA values the extensive review of the scientific research on nutrition by the Dietary Guidelines Advisory Committee and its continued advocacy for a healthier food supply through food policies for federal nutrition programs, schools, work places, clinics and health professional practices, faith-based organizations and the community at large. As the 2015 DGA are finalized, we urge additional consideration of cultural preferences, economic realities, food insecurity, life stages and environmental sustainability. In general, any dietary pattern should include affordable and accessible fruits, vegetables, whole grain products, and low fat dairy and similar substitutes such as nuts, beans, soy foods and healthy oils. Thank you for the time, attention and dedication to finalizing this essential public health guidance.

Sincerely,

A handwritten signature in black ink, appearing to read "Georges C. Benjamin". The signature is fluid and cursive, with the first name "Georges" and last name "Benjamin" clearly legible.

Georges C. Benjamin, MD  
Executive Director

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<sup>56</sup> Van Dooren, C., et al. (2014). Exploring dietary guidelines based on ecological and nutritional values: A comparison of six dietary patterns. *Food Policy*, 44:36-46.

<sup>57</sup> Institute of Medicine. (2014). Sustainable Diets: Food for healthy people and healthy planet: Workshop summary. Washington, DC: The National Academies Press.