

### RESEARCH Commentary

# Emerging Opportunities for Registered Dietitian Nutritionists to Help Raise a Healthier Generation of Native American Youth

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### ARTICLE INFORMATION

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MERICAN INDIAN CHILDREN ARE EXPERIENCING alarming signs of nutrition-related chronic diseases, such as overweight/obesity, hypertension, and acanthosis nigricans-a skin condition characterized by areas of dark, velvety discoloration in body folds and creases.<sup>1</sup> Children who develop acanthosis nigricans are at higher risk for developing type 2 diabetes. This commentary aims to increase awareness of emerging opportunities for registered dietitian nutritionists (RDNs) to help raise a healthier generation of American Indian and Alaskan Native children and adolescents ("youth," for short). RDNs working for, with, or near tribal communities or as educators, preceptors, or mentors who develop the next generation of RDNs have tremendous potential to shape the public health landscape to advance American Indian and Alaskan Native health.

## INTEGRATING NUTRITION INTO COMPREHENSIVE APPROACHES

Tribal governments, urban Indian organizations, tribal food policy councils, and other community-driven groups are increasingly exploring comprehensive health and wellness policies and plans.<sup>2-7</sup> Several initiatives utilize environmental, policy, and system approaches to promote healthy eating. Other efforts have been in response to First Lady Michelle Obama's *Let's Movel* in Indian Country call to action, or supported, in part, by a growing list of funding mechanisms specifically designed to foster tribally led community changes, such as the First Nations Development Institute Native Agriculture and Food Systems Initiative, the Healthy Native North Carolinians Network, the Notah Begay III Foundation's Native Strong: Healthy Kids, Healthy Futures, and the US Centers for Disease Control and Prevention's "A Comprehensive Approach to Good Health and Wellness in Indian Country" (Figure).

RDNs working for, with, or near tribal communities can play an instrumental role in collaborating with tribal leaders to develop, implement, evaluate, sustain, and disseminate comprehensive health and wellness policies and plans that include provisions to promote healthy eating. The National Congress of American Indians Policy Research Center Tribal Public Health Law project is one tool RDNs can use to find resources tailored to tribal governments working to develop their own public health laws; identify existing laws such as tribal child care facilities licensure; and disseminate lessons learned on tribally led healthy eating laws, policies, and resolutions.8 RDNs can focus on identifying existing or possible tribal self-governance strategies that emphasize community and economic development, along with food sovereignty-a re-emerging indigenous value ensuring people who produce, distribute, and consume food have the right to determine their food production and distribution mechanisms and policies.<sup>3,9-11</sup>

In addition, RDNs have the expertise needed to identify tribally led strategies sensitive to the fact that many tribal communities must address the co-existence of food insecurity and obesity among their American Indian and Alaskan Native youth and families.<sup>12</sup> RDNs' ability to work at both the prevention and treatment stages of nutritionrelated chronic diseases will be vital, given the high prevalence of chronic conditions and oral health issues among even young children.13 Likewise, RDNs can help raise parents' and other key stakeholders' awareness of healthy child feeding and weight-management practices.<sup>14-16</sup> In addition, RDNs can assist with developing cost-effective multi-level, multi-sector approaches that address the social determinants of health, mobilize tribal assets, including family and community ties, and incorporate other tribal priorities, such as suicide and substance abuse prevention. Lastly, at the tribal, state, or national levels, RDNs can help promote the unique authority and needs of tribal leaders and organizations in raising a healthier generation of American Indian and Alaskan Native youth. Too often, health-promotion and disease-prevention efforts call attention to the role of leaders at the federal, state, and local levels, while failing to recognize the authority granted by the US Constitution for tribal leaders to enact changes that can foster healthy eating.<sup>17</sup> When developing curriculum and other

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Activity	Description
Association of American Indian Physicians (AAIP) Healthy, Active Native Communities (HANC) Mini-Awards https://www.aaip.org/programs/capacity-building-assistance/ healthy-active-native-communities-hanc/ Supported by the CDC <sup>a</sup> Office of State, Tribal, Local, and Territorial Support	Provides online resources, as well as calls for grant proposals from Tribal Health Departments and American Indian and Alaskan Native nongovernmental key players in the public health workforce aiming to adapt and implement the CDC's Winnable Strategies to engage their communities in improving health using environmental, systematic, and/or policy change.
CDC: A Comprehensive Approach to Good Health and Wellness in Indian Country http://apply07.grants.gov/apply/opportunities/instructions/ oppCDC-RFA-DP14-1421PPHF14-cfda93.762-cidNCCDPHP- NR-instructions.pdf Financed by the Prevention and Public Health Funding	Building on and growing from lessons learned from a variety of its funding mechanisms and technical assistance supporting work in tribal communities, this funding mechanism supports 22 new grants providing tribes and villages with support to work on strategies including improving access to healthy foods.
First Nations Development Institute Native Agriculture and Food Systems Initiative http://www.firstnations.org/programs/foods-health Partners and funding sources include AARP Foundation, The Christensen Fund, CHS Foundation, US Department of Agriculture Office of Advocacy and Outreach, US Department of Agriculture Rural Development, Walmart Foundation, and W. K. Kellogg Foundation	Through a variety of past and current projects, First Nations Development Institute has focused on improving access to healthy foods among Native American children and families, including grant making and trainings.
Healthy Native North Carolinians Network (HNNC) http://americanindianhealthyeating.unc.edu/healthy-native- north-carolinians-2/ Funding sources include Kate B. Reynolds Charitable Trust, Healthy Eating Research, a national program of the Robert Wood Johnson Foundation, and the National Institutes of Health	Expanding from partnerships formed during the American Indian Healthy Eating Project started in 2008. Continues to grow and work collaboratively to facilitate sustainable community changes around active living and healthy eating within American Indian tribes and urban Indian organizations in North Carolina. Healthy eating strategies used include: community gardens, farmers' markets, healthier concession stand offerings, and various nutrition-related educational and promotional activities including tribal cookbooks.
Let's Movel in Indian Country http://lmic.ihs.gov/ Federal partners include the White House, Executive Office of the President, US Department of Health and Human Services, US Department of Interior, US Department of Education, Corporation for National and Community Service and AmeriCorps, and US Department of Agriculture	Recognizes the unique needs and potential of tribal governments and urban Indian organizations to address obesity among American Indian and Alaskan Native youth. Various <i>Let's Move!</i> in Indian Country partners offer relevant grant-making opportunities, resources, and technical assistance. Tribal communities can also leverage resources and tools from other <i>Let's Move!</i> sub-initiatives working on improving access to healthier foods, such as <i>Let's Move!</i> Salad Bars to Schools.
MoGro Mobile Grocery http://www.mogro.net/ Partners and funding sources include the Johns Hopkins Center for American Indian Health, Notah Begay III Foundation, La Montanita Co-op, W. K. Kellogg Foundation, Newman's Own Foundation, and US Department of Agriculture	Using a temperature-controlled truck, MoGro provides healthy, affordable food to Pueblo communities lacking access due to remote location, transportation, and/or cost.

Figure. Selected activities to improve access to locally grown, affordable foods and beverages in American Indian and Alaskan Native communities.

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Activity	Description
Notah Begay III Foundation (NB3) http://www.nb3foundation.org/ Partners and funding sources include The Robert Wood Johnson Foundation, W.K. Kellogg Foundation, Nike N7 Fund, and Walmart Foundation	Work to build a national framework designed to reduce childhood obesity and type 2 diabetes among American Indian and Alaskan Native youth. The NB3 Foundation offers a variety of programs and initiatives, including its Native Strong initiative that uses grant making, capacity building, research, and advocacy.
US Department of Agriculture (USDA) Community Food Projects Competitive Grants Program http://nifa.usda.gov/funding-opportunity/community-food- projects-competitive-grants-program-cfpcgp	An example of an USDA funding mechanism that has been and could be utilized to support the development, implementation, and evaluation of community food projects working with tribal communities to improve access to healthy, affordable foods.

Figure. (continued) Selected activities to improve access to locally grown, affordable foods and beverages in American Indian and Alaskan Native communities.

educational or experiential learning or technical assistance materials, RDNs can avoid making this same oversight by being explicit and specific about approaches tribal leaders could take to foster healthy eating.

### FOSTERING EMERGING TRIBALLY LED HEALTHY EATING STRATEGIES

The following tribally led strategies are emerging as lead approaches to fostering healthy eating and as relevant RDN opportunities to help raise a healthier generation of American Indian and Alaskan Native youth.

## Improving Access to Locally Grown, Affordable Foods and Beverages

Numerous opportunities exist where RDNs can work with tribal communities to start or expand community-driven approaches to improving access to locally grown, affordable foods and beverages (Figure).<sup>2</sup> Improving food access is fundamental to fostering healthy eating. Evidence illustrates rural, isolated tribal communities are far from retail food outlets compared with more urban, wealthier, and white communities.<sup>18-20</sup> A recent report explored the complex historical and contemporary challenges to Native American healthy food access, childhood obesity, and health disparities, and recommended a first step toward a solution is "becoming aware of the extent of the problem of Native health disparities and its deep interconnections to United States Indian policy, poverty, historical trauma and food systems."20 This report emphasized strategies focusing on "increasing tribal control of assets related to food production and purchasing for and by Native communities."20

In a variety of settings, RDNs can be instrumental in developing, implementing, and evaluating tribally led community gardens, farmers' markets, farm-to-table programs, mobile retail food outlets, and other innovative approaches to improving access to locally grown, affordable foods and beverages. RDNs can also help ensure counseling, along with educational materials and messages that consider the patients' or clients' current food environment. One approach can be creating or participating in multidisciplinary teams,

including local food providers and health professionals, to identify outlets and specific menu and grocery items that improve the purchase, preparation, and consumption of locally grown, affordable food and beverages.<sup>21,22</sup> Through the US Department of Agriculture (USDA) Supplemental Nutrition Education Assistance Program-Education,<sup>23</sup> their Team Nutrition initiative,<sup>24</sup> or other USDA mechanisms, RDNs can partner with tribal chefs, including youth, to create and disseminate culturally appropriate, low-cost meals featuring traditional foods and beverages offered through the USDA Food Distribution Program on Indian reservations,<sup>25</sup> community gardens, farmers' markets, or other retail venues. Equally important, RDNs can inform community members about federal food and nutrition assistance programs, such as the USDA Supplemental Nutrition Education Assistance Program and the USDA Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), as well as work with existing or emerging retail outlets to participate with these programs.<sup>26</sup> For example, the Choctaw Nation of Oklahoma recently became the 52nd state agency to operate the USDA Senior Farmers' Market Nutrition Program, which provides access to fresh, locally grown fruits and vegetables to low-income, older Americans.  $^{\rm 27}$ 

## Strengthening Tribal Institutional and Commercial Foodservice Nutrition Standards

Although the type and size of institutional foodservice options on or near tribal communities vary, RDNs have the potential to strengthen food and nutrition standards and help balance the often dual risks of excess weight gain and hunger faced by far too many American Indian and Alaskan Native youth, families, and communities.<sup>12</sup> That is, RDNs can help to ensure the use of culturally, contextually, and economically feasible menu-planning approaches and vending-machine offerings. In the 21 participating tribal schools in Pathways (a randomized trial that tested the effect of a school-based program to prevent obesity in American Indian youth), school meal improvements were associated with reductions in student intake of percent calories from fat and saturated fat at school lunch and over the whole day.<sup>28</sup> Currently, 183 Bureau of Indian Education—operated schools are working toward implementing the Alliance for a Healthier Generation's Healthy School Program.<sup>29</sup> RDNs can also work with child-care program staff and providers to develop, implement and evaluate culturally appropriate and contextually feasible nutrition policies and practices.<sup>30</sup> Further, RDNs can promote participation in and compliance with the US Department of Health and Human Services Head Start program's nutrition provisions<sup>31</sup> and the USDA's Child and Adult Care Food Program menu pattern requirements.<sup>32</sup> Let's Move! in Child Care offers training and resources for providers striving to meet food and beverage goals.<sup>33</sup>

Other ripe venues for strengthening nutrition standards include tribal worksites, tribal government-related meetings and events, as well as tribally owned or operated casinos, resorts, restaurants, and health care settings.<sup>34</sup> Tribal leaders can explore menu labeling requirements for retail food outlets operating on tribal lands, which would necessitate nutrient analysis and nutrition education expertise for effective implementation. Taxation is another tool tribal governments have used to improve the healthfulness of retail foods and beverages sold on tribal lands. That is, the Healthy Diné Nation Act of 2014 imposes a tax on the gross receipts at a rate of 2% on minimal-to-no-nutritional value food and beverage items sold.<sup>35</sup> Taken together, these approaches strengthen tribal institutional and commercial foodservice nutrition standards and afford RDNs a variety of valuable opportunities to provide nutritional guidance.

#### Breastfeeding Promotion

RDNs play a major role in efforts to promote breastfeeding and can be instrumental in encouraging the development, implementation, and evaluation of tribal workplace policies, such as the Navajo Nation Healthy Start Act of 2008.36 Through its Nutrition and Dietetics Training Program,<sup>37</sup> the Indian Health Service (IHS) sponsors culturally relevant workshops on team-oriented clinic-community partnerships focused on ensuring all 13 IHS obstetric facilities maintain the Baby Friendly<sup>38</sup> designation. IHS also offers toolkits describing best practices to support the initiation and sustained breastfeeding during the first year.<sup>39</sup> Outside clinical settings, RDNs working at the 32 tribally administered WIC programs or in WIC offices serving American Indians and Alaskan Natives have opportunities to instill the importance of healthy eating from neonatal periods onward for both the mom and her child(ren).<sup>40</sup> In comparison with other racial/ ethnic groups in the United States, several studies have documented higher birth weights for American Indian and Alaskan Native newborns and greater weight-for-height during the preschool years.41 In one study, Pima youth gained excessive weight compared with Centers for Disease Control and Prevention standards, with gains occurring as early as the first 6 months and between 2 and 11 years old.<sup>42</sup> Another study conducted with American Indian children aged 5 to 8 years old reported elevated cardiovascular risk was predicted by a child's body mass index at age 1 year.<sup>43</sup>

### BUILDING THE EVIDENCE AND CAPACITY TO ADVANCE AMERICAN INDIAN AND ALASKAN NATIVE HEALTH

A key ingredient to developing effective tribally led environmental policy and system approaches for promoting healthy eating will be establishing a culturally and contextually relevant evidence base. Limited data exist on dietary intake and nutrition-related chronic diseases among American Indians and Alaskan Natives.<sup>44-48</sup> Compounding the paucity of data is the fact that available information is not representative or informative for guiding tribal-level action, given the heterogeneity of the more than 500 tribal communities in the United States.<sup>49</sup>

RDNs have been,<sup>50,51</sup> and can continue to be, vital assets to transdisciplinary research efforts to examine the multifactorial etiology of the nutrition-related chronic diseases and health disparities facing today's American Indian and Alaskan Native youth. These factors include, but are not limited to, poverty, genetics, environment, access to health care challenges, stress associated with historical trauma, including contemporary threats to cultural identity and national sovereignty, and institutional and interpersonal discrimina-tion.<sup>52-57</sup> Community-based participatory research or other tribally driven research models have effectively engaged tribal leaders in nutrition-related projects.<sup>3,5,58-62</sup> Creating and conducting collaborative research approaches built on trust helps foster tribal ownership by encouraging tribal members to drive the assessment of community needs and priorities, identify community assets and strengths, and develop culturally and contextually appropriate strategies addressing issues and concerns.<sup>63</sup> As research is gathered and analyzed, RDNs have an important responsibility to effectively communicate findings to tribal leaders and other key stakeholders and, more importantly, help disseminate and translate the results so other tribal communities can use these findings to guide the development of their actions to promote healthy eating.

Beyond helping to conduct and communicate research findings, RDNs can help tribal governments and other key stakeholders identify available datasets (eg, IHS or school annual body mass index measurements), synthesize available data on relevant nutrition and health issues for a tribal community, and identify culturally and contextually sensitive evidence informed approaches suitable for a tribal community exploration. Presently, various efforts exist (Healthy Native North Carolinians Network<sup>4</sup> and the Notah Begay III Foundation's Native Strong: Healthy Kids, Healthy Futures<sup>64</sup>) that specifically work toward building capacity among tribal leaders and organizations to develop and evaluate tribally led community changes that foster healthy eating. Evaluation expertise is often needed among these funded tribal grantees, especially because compared with white populations, fewer nutrition-related measures have been validated among Native American populations.<sup>48,65,66</sup>

While working on academic–community collaborative projects to address research gaps and build the evidence base, RDNs often have meaningful opportunities to cultivate the next generation of RDNs capable of advancing the state of the science on American Indian and Alaskan Native health. RDNs, dietetic interns or students, or aspiring RDNs can work on these projects to explore research as a career, earn their doctorate, or harness their skills to be an independent investigator. A recent example is the National Institutes of Health's \$240 million investment in Building Infrastructure Leading to Diversity (BUILD) training awards to improve the recruitment of students from diverse backgrounds into the biomedical research workforce and encourage them to

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become future contributors to the National Institutes of Health—funded research.<sup>67</sup> The National Institutes of Health, among other federal agencies, support a variety of funding mechanisms to promote diversity in health-related research.<sup>68,69</sup> Another opportunity is designing or delivering cultural competency training for researchers, practitioners, or other stakeholders; specifically providing expertise on how to promote culturally appropriate dietary behaviors, child feeding practices, and weight-management practices, as well as effective ways to blend traditional practices with Western medicine.<sup>70-73</sup>

#### ENGAGING AND EMPOWERING AMERICAN INDIAN AND ALASKAN NATIVE YOUTH

Special efforts can be made to engage and empower American Indian and Alaskan Native youth--the next generation of tribal leaders.<sup>74-79</sup> An emerging opportunity is the White House Generation Indigenous Native Youth Challenge ("Gen-I Initiative").80 Launched in 2014, the Gen-I Initiative invites youth aged 14 to 24 years, nonprofit organizations, and educational institutions to develop networks committed to addressing issues facing American Indian and Alaskan Native youth, including healthy eating and nutrition-related chronic diseases. Finally, and one of the most important activities RDNs can focus on, is the recruitment, training, and retention of American Indian and Alaskan Native students and professionals into food, nutrition, and dietetics professions.81 The Academy of Nutrition and Dietetics sponsors a variety of resources and programs to address the underrepresentation of American Indians and Alaskan Natives in our profession, such as a toolkit for mentoring diverse student populations to pursue dietetics careers.<sup>82</sup> The Academy also supports awards and programs that can encourage RDNs to increase the diversity and cultural competency in our profession by means of the Diversity Mini-Grants, the Diversity Leaders Program, the Diversity Promotion Grants, and the Diversity Action Award.83

#### CONCLUSIONS

New opportunities exist for RDNs to help address nutritionrelated health disparities among American Indian and Alaskan Native individuals, families, and communities. Particularly promising are emerging opportunities for RDNs working for, with, or near tribal communities to partner with tribal leaders, including American Indian and Alaskan Native youth on catalyzing and sustaining tribally led approaches to foster healthy eating among tribal communities. Chronic disease does not have to be the fate of this generation.

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