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ABSTRACT
The Academy of Nutrition and Dietetics, as the largest member-based nutrition organization in the world, is dedicated to advancing the world of nutrition and dietetics through research. It is essential for the Academy to identify both current and future research priorities for nutrition and dietetics professionals. To address this, the Academy convened a task force charged with developing research priorities relevant for its members. Specifically, it would define key issues of the nutrition and dietetics profession, identify relevant research topics and questions related to the defined issues. The task force leveraged multiple data sources to develop the research priorities. These data sources included existing interviews from a previous Academy event (Nutrition Impact Summit) held in 2016, and information gathered through a survey e-mailed to all Academy members. This led to the development of draft research priorities that were revisited and revised. The final Academy research priorities were established across 4 domains: nutrition-related discovery, clinical nutrition research, implementation science, and public health. These priorities have relevance for all nutrition and dietetics professionals across diverse areas of practice and will be used internally to prioritize research efforts, inform the allocation of resources across Academy units, and guide Academy advocacy for national nutrition research agendas and initiatives. This article will summarize the task force’s updated research priorities and detail the 9-step process used to generate them.

Supplementary materials: Figures 6 is available at www.jandonline.org.

In 2016, THE ACADEMY OF NUTRITION AND DIETETICS announced its Second Century Initiative. The goal was to establish a new vision and strategic direction for the Academy, one that would drive “a future that focuses on service, collaboration, and an emphasis on accelerating progress towards solving the biggest food and nutrition challenges of the 21st century.” As part of this initiative, the Academy also launched a new strategic plan that prioritizes projects and initiatives in 3 areas: prevention and well-being, health care and health systems, and food and nutrition safety and security. The release of this updated strategic plan offered a timely opportunity to reassess the nearly decade-old Academy research priorities.

To this end, the Academy’s Council on Research Committee created a Research Priorities and Strategies Development Taskforce. The task force was comprised of representatives from key Academy bodies (the Council on Research and the Board of Directors), potential collaborators (e.g., the National Institutes of Health), and diverse areas of dietetic research and practice, including bench, or basic, nutritional science, clinical nutrition, and public health (see Figure 1).

This 2-year task force was charged with:

1. Defining key issues of the dietetics profession going into the second century;
2. Identifying relevant research topics and questions related to the defined issues with recommendations for needed study designs, as appropriate;
3. Facilitating the prioritization of efforts and the allocation of resources across Academy units; and
4. Guiding Academy advocacy for national nutrition research agendas and initiatives.

In addition, the task force was asked to recommend a standard interval at which the Academy’s research priorities should be reviewed and revised. This article will summarize the task force’s updated research priorities and detail the 9-step process used to generate them.

BACKGROUND
Research is the cornerstone of the nutrition and dietetics profession. As the largest nutrition-focused, member-based organization in the world, the Academy of Nutrition and Dietetics has a vested interest in advancing nutrition science and identifying clear priorities by which to do so. The Academy is not alone in this interest; the National Institutes of Health, the American Society for Nutrition, and the Interagency Committee on Human Nutrition Research have each established or are working to establish nutrition research priorities for their organizations and partners.

The recently released Strategic Plan for National Institutes of Health Nutrition Research identified 4 strategic goals: (1) “spur discovery and...
innovation through foundational research’ on what we eat; (2) to ‘investigate the role of dietary patterns and behaviors for optimal health’; (3) to ‘define the role of nutrition across the life span’; and (4) to ‘reduce the burden of disease in clinical settings.’

The American Society for Nutrition set 6 broad priorities that address topics ranging from the metabolic (‘understand variability in metabolic responses to diet and food’) to the systemic (‘understanding how the food environment affects dietary and lifestyle choices’) with the broader goal of improving ‘global health and well-being.’

The Interagency Committee on Human Nutrition Research engaged 90 federal agency representatives in the process of creating a National Nutrition Research Roadmap with a primarily domestic focus. The final report identified 3 main research questions that encompassed 11 topics related to understanding and defining healthy eating patterns, helping people to choose healthy eating patterns, and developing and employing innovative research methods. The priorities were chosen based on their potential for population impact (eg, the reduction of nutrition-related chronic diseases), their feasibility, and their alignment with emerging opportunities (eg, in the context of knowledge and capacity advancements) while also considering nutrition needs spanning the life cycle and relevant to the US population.

Although the priorities set by these organizations and committees cover a comprehensive and overlapping swath of nutrition research needs and are applicable references for all nutrition researchers and researchers in training, they do not address the more practice-focused research gaps of concern to credentialed nutrition and dietetics practitioners and to Academy members specifically. Thus, the Academy has pursued identification of its own research priorities to ensure alignment with current and emerging needs of practicing members and of the broader profession. These research priorities will help to guide resource allocation for Academy-driven (ie, internal) and Academy-supported (ie, member-based) research and to facilitate targeted advocacy by the Academy for federal research efforts.

The Academy’s previous research priorities were released in 2011 and were based on the results of a survey sent to Academy members with a doctorate degree and to members of the Research Dietetic Practice Group with a post-baccalaureate degree. The survey assessed member participation in research, research interests, and perception of research needs. The resulting priorities were informed by the survey results and spanned 6 domains applicable to nutrition education, practice, and policy: dietetics research, nutrition

Figure 1. The Academy Research Priorities and Strategies Development Taskforce. NIH = National Institutes of Health.

Figure 2. The 2011 Academy Research Priority Domains.
research, social science research, business research, basic science research, and food research\textsuperscript{10} (see Figure 2).

**RESEARCH PRIORITY SETTING PROCESS**

To employ an evidence-based process for establishing the new priorities, the recent task force consulted the literature to explore approaches to determining research priorities.

Although some priority-setting groups relied exclusively on the use of experts to identify and rank potential priorities,\textsuperscript{11} others relied on a broader but profession-specific sample of individuals to inform priorities, and yet others sought a wide diversity of perspectives\textsuperscript{12} from across professional domains. Given that this effort was a direct response to the lack of profession-specific research priorities and a potential asset to Academy-specific research activities, the task force focused on soliciting the perspective of Academy-affiliated nutrition and dietetics practitioners and practitioners in training. To maximize the potential perspectives across the sample, the task force did not restrict data collection to active researchers or to research “experts”; all Academy members were assumed to have a valuable perspective in helping guide the Academy research priorities.

A preponderance of publications discussed the use or modification of a priority setting process defined by the World Health Organization’s Child Health and Nutrition Research Initiative.\textsuperscript{13} Ball et al, for example, defined a 5-step framework for engaging with stakeholders that included selecting a management team, confirming scope and context, engaging with stakeholders, confirming criteria for appraising and prioritizing research, and scoring research questions.\textsuperscript{14} The Academy task force used this framework as a starting point but recognized the value of greater distinction between steps and a process that explicitly included opportunities for member checking and dissemination of findings. An iterative 9-step process was defined accordingly (see Figure 3).

Team selection was completed by Academy staff with awareness of relevant representatives from across the previously discussed domains. Scope confirmation was led by the newly convened task force, which discussed and clarified the Academy-provided charge and specified which stakeholders to engage during later steps of the process. Preparation to engage included deciding upon data collection methods, preparing data collection tools, seeking support from relevant Academy units, and acquiring necessary institutional review board approvals. Setting appraisal criteria included the selection of scoring or prioritization criteria (ie, criteria by which to evaluate drafted priorities) and specification of analyses to be completed with the collected data. Engaging stakeholders included accessing relevant secondary data sources (eg, recent Academy analyses or reports), convening interviews, and sending surveys to assess current member perspectives on potential research priorities. Analysis of findings included the conduct of qualitative and quantitative analyses of primary and secondary sources of information to capture and refine priority-focused ideas. Steps 3 through 6 resembled more of a cyclical rather than linear process to ensure sufficient stakeholder input. Conducting member checks included sharing preliminary findings and priority drafts to solicit feedback and ensure usability of outputs. Clarifying priorities included the process of refining priority wording and descriptions based on feedback and organizing the priorities into an overarching framework. This is in contrast to other priority-setting processes that asked stakeholders to share ideas within prespecified domains\textsuperscript{15}; to allow for the emergence of novel ideas, this task force took a more open-ended, inductive approach and fit a framework to the final priorities. Finally, the task force envisioned that disseminating findings would include distribution of the final priorities through multiple venues for maximal reach. Outputs include a final report for distribution to all Academy members through appropriate venues and a peer-reviewed “process” manuscript, which contains a detailed description of the priority-setting and revision processes for reference by future Academy and non-Academy teams tasked with setting priorities. The task force also engaged in a framework-generating process to organize the priorities across key domains. See Figure 4 for the final framework used to categorize the Academy research priorities that fall within 4 domains: nutrition-related discovery, clinical nutrition research, implementation science, and public health. Additional dissemination efforts will be considered by the task force and by appropriate Academy groups.

**LEVERAGING EXISTING DATA FROM NUTRITION IMPACT SUMMIT INTERVIEWS**

The Academy of Nutrition and Dietetics Foundation hosted a Nutrition Impact...
Summit in September 2016 for select internal and external stakeholders. The summit was one of many activities hosted to generate ideas for the Academy’s Second Century initiative. In preparation for the summit, the Academy interviewed 150 stakeholders falling into 1 of 3 categories: external (ie, not Academy affiliated), internal, and internal early career. Interviewers and note takers used interview templates to summarize interviewee responses.

During the task force’s initial discussions, consensus was reached that existing Academy resources, including any recently collected data of potential relevance to the priority-setting process, should be utilized to the extent possible. Thus, the task force requested the Nutrition Impact Summit interview notes for qualitative analysis of any research-related comments; 108 interview files were made available for this purpose. All internal interview files were uploaded into NVivo 10 (QSR International Pty Ltd, Doncaster, Victoria, Australia) for coding.

ANALYSIS OF NUTRITION IMPACT SUMMIT AND MEMBER ENGAGEMENT ZONE DATA

Given the complementary nature of the preexisting and newly collected data to the task force mission, all Nutrition Impact Summit and MEZ data were analyzed simultaneously. Three student research assistants were trained in qualitative data analysis and use of NVivo by the task force chair (J.A.G.) before working collaboratively with the chair, and in consultation with the task force, to define an initial codebook, complete a first round of coding on a subset of comments, and create a consensus codebook through iterative sessions of coding and

GENERATING NEW IDEAS VIA A MEMBER ENGAGEMENT ZONE SURVEY

The task force also endeavored to generate preliminary research priority ideas from a broader sample of Academy members. To do so, a 1-question, open-ended Member Engagement Zone (MEZ) survey was developed collaboratively by the task force during an all-group call. The MEZ is not a research tool; rather, it is designed to secure feedback, comments, and opinions on issues affecting the profession; to obtain input quickly on new products and services; to engage members in Academy programs, services, and initiative; and to involve members and nonmembers alike in the directions and initiatives of their Academy. The message on the MEZ read:

The Academy is reevaluating our research priorities; we would like your assistance by answering a one-question survey. Based on your experience in nutrition and dietetics, please identify up to three research needs, or gaps, of primary importance to the future of the field. Consider—are there any topics for which dietitians lack sufficient research to conduct evidence-based practice and programming?

The survey was launched in May 2018 to align with the Academy’s Nutrition Research Month. It was advertised on the EatRightPro website (see Figure 5) and via the Academy’s Facebook page. A total of 345 responses were collected during the 2-week response period. All comments were uploaded into NVivo 10 (QSR International Pty Ltd, Doncaster, Victoria, Australia) for qualitative coding by 3 student research assistants.
codebook revision based on an expanding subset of comments. Coding consistency was assessed via direct comparison of coded comments during these sessions, and discrepancies were used to inform codebook revision and refinement. The final consensus codebook was used by 2 students to code all interviews and comments; one student coded all Nutrition Impact Summit interviews and the other coded all MEZ comments. In accordance with the tenants of template analysis, a relatively flexible, approach was used to analyze the data, as evidenced by the use of a codebook and a limited number of a priori codes.17 These initial codes—“Wellness Programming,” “Healthcare Services,” and “Food Systems”—were based on the Academy’s strategic plan.2 The remaining codes were developed inductively, throughout the codebook development process, in response to the interview and survey data. Inductive codes were driven largely by the content of MEZ comments given the diversity of content therein relative to that found in the Nutrition Impact Summit interview notes. The final 10 codes represented comments related to dietetic practice settings, profession-specific concerns, and special topics in dietetics with 2 additional codes used to capture unclear comments (eg, 1-word responses) and verbatim duplicate comments.

NUTRITION IMPACT SUMMIT AND MEMBER ENGAGEMENT ZONE THEMATIC DEVELOPMENT
The results of the qualitative analysis from the Nutrition Impact Summit and MEZ data were shared with the task force. The coding results for each data set were comparable, with a large portion of the comments falling under the Healthcare Services and Professional Advancement codes (see Table 1).

The task force then examined the coding results for the MEZ survey in more detail. Each task force member was charged with reviewing the coded comments for one of the primary codes. Everyone also reviewed the comments for the most frequently used code, Emerging Nutrition Topics.

The team-based approach to reviewing coded comments facilitated the generation of major themes and the revision and consolidation of those themes into 14 preliminary research priority ideas.

RESEARCH PRIORITIES SURVEY
The task force then focused on the development of a member-wide survey that would help to finalize the drafted priorities. The task force considered the Academy-sponsored, research activity-focused survey administered in 20119 and Commission on Dietetic Registration surveys18 when developing survey questions, specifically those related to demographic data and participation in research.

The task force looked to relevant literature and existing protocols used by the Research, International, and Scientific Affairs team when priority setting to select criteria by which survey respondents could rank the drafted priorities. The Research, International, and Scientific Affairs team’s prioritization rubric for internal topic selection was informed by relevant literature from National Academies of Science, World Health Organization, and Agency for Healthcare Research and Quality’s.19-21 From the existing Research, International, and Scientific Affairs criteria and other literature11,12,15,22-24 the task force identified 17 possible criteria: answerability, appropriateness, capacity building, chance of success, deliverability, effectiveness, effect on burden reduction, equity, feasibility, impact on economy, impact on health, importance, potential for conceptual breakthrough, potential for success, potential for translation, potential impact, and relevancy.

The task force discussed which and how many criteria to employ and how to employ them. For example, respondents could be asked to rank each priority relative to each other, forcing respondents to order the priorities from “best” to “worst” according to the chosen criterion or criteria. Alternatively, respondents could rate each priority independently using a consistent scale and in consideration to one or more criteria.

The task force ultimately drafted 3 questions that represented criteria for respondents to consider collectively when rating the priorities:

- Which topics represent a significant disease burden or affect a large proportion of the population?
- Which topics have potential for significant health impact or
interviews that were hosted via a selected to partake in semistructured dietetic practice groups leaders to staff member e-mailed a subset of 9 "ity from anywhere between visual analog scales to rate each prior- standing each priority could indicate granular differences in large scale of 0 to 100 was used on the method is more robust for under- rather than rank them because this analogy scales to rate the priorities respondents were asked to use visual with those questions in mind. Re- done to improve the wording of those distinguishing between any of the prior- It s staff interviewee took drafts priority, as well as 4 de- historic questions and 1 optional open-ended question asking for additional comments (see Figure 6 for the final survey). This survey was administered via SurveyMonkey. A link to the survey was sent to all Academy members via a mass member-wide e-mail and was open for completion between July 12, 2019, and August 2, 2019. Interested members were instructed to click the survey link, which directed them to an informed consent page on which participants were informed of the voluntary, anonymous, and non-compensated nature of their potential participation. In addition to the member-wide e-mail, the survey opportunity was advertised via the e-mail-based EatRight weekly newsletter and social media. All members also received one e-mail reminder, sent approximately 1 week before the survey closed. The survey was designed to prevent multiple responses from the same electronic device to minimize duplicate completion.

Survey data were managed and descriptively analyzed in STATA version 16.0 (2019; StataCorp LLC, College Station, Texas). t Tests were used to examine any differences in priority ratings based on whether the respondent had conducted research recently. The responses to the survey's open-ended question were analyzed qualitatively. Specifically, responses were coded inductively and independently by 2 members of the study team (G.P. and K.K.) in Microsoft Excel version 2010 (Microsoft Office 365, Microsoft Corp, Redmond, Washington). The 2 study team members compared their initial codebooks and collaboratively established a single, consensus codebook. Based on frequently used codes representing both the existing priorities and new priority suggestions, the study team members identified emergent themes. These themes were reviewed and finalized by all task force members to ensure that they were relevant and accurately represented the data.

The protocols for cognitive testing and for survey administration were submitted to the Office of Responsible Research Practices at The Ohio State University and were granted exempt status from Institutional Review Board review on April 25, 2019 (Study ID #2019E0350) and on July 2, 2019 (Study ID #2019E0584), respectively.

**RESULTS**

The research priorities survey was e-mailed to approximately 55,000 Academy members and elicited improvement in health outcomes?

- Which topics have potential to change current nutrition practice across various settings?

The survey asked respondents to use visual analog scales to rate each priority from anywhere between "not a priority" and "most important priority" with those questions in mind. Respondents were asked to use visual analog scales to rate the priorities rather than rank them because this methodology is more robust for understanding each priority’s favorability. A large scale of 0 to 100 was used on the visual analog scales so that respondents could indicate granular differences in their ratings of the priorities.

The survey was reviewed by the Survey Review Subcommittee under the Academy’s Council on Research and underwent cognitive testing to improve face validity.25 A task force staff member e-mailed a subset of 9 dietetic practice groups leaders to invite them to participate in a telephone-based cognitive interview. The practice groups approached were selected purposively to represent the breadth of Academy practice areas. Three Academy group leaders were selected to partake in semistructured interviews that were hosted via a WebEx call. The participants were provided the survey in advance. During the call, they were asked things such as “What is your understanding of this survey’s purpose?”; “What does this question mean to you in your own words?”; “Did you have trouble distinguishing between any of the priorities? If so, why?”; and “What could be done to improve the wording of those priorities?” The staff interviewee took detailed notes during each call and generated a qualitative summary of survey feedback based on leader comments during the interviews. The task force reviewed this feedback and worked collectively to refine the survey introduction, wording, and response options according to this feedback and edits suggested by the Survey Review Subcommittee.

The final survey was composed of 14 rating scale questions, 1 for each drafted priority, as well as 4 demographic questions and 1 optional open-ended question asking for additional comments (see Figure 6 for the final survey). This survey was administered via SurveyMonkey. A link to the survey was sent to all Academy members via a mass member-wide e-mail and was open for completion between July 12, 2019, and August 2, 2019. Interested members were instructed to click the

<table>
<thead>
<tr>
<th>Code</th>
<th>NIS data no. of references</th>
<th>MEZ data no. of references</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Wellness programming</td>
<td>0</td>
<td>32</td>
</tr>
<tr>
<td>2. Health care services</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td>3. Foodservice strategies</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>4. Professional advancement</td>
<td>30</td>
<td>90</td>
</tr>
<tr>
<td>5. Food systems</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>6. Health equity</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>7. Nutrition legislation</td>
<td>1</td>
<td>15</td>
</tr>
<tr>
<td>8. Emerging nutrition topics</td>
<td>0</td>
<td>224</td>
</tr>
<tr>
<td>9. Other/unclear</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>10. Duplicate</td>
<td>N/A</td>
<td>40</td>
</tr>
</tbody>
</table>

*NIS = Nutrition Impact Summit.
*MEZ = Member Engagement Zone.
| Table 2. Survey respondents’ education level and employment setting, overall and by researcher statusa |
|-------------------|-------------------|-------------------|
| Highest degree earned | All participants (n = 4190) | Researchersb (n = 1279) | Nonresearcherb (n = 2876) |
| Associate’s | 45 (1.1) | 4 (0.3) | 41 (1.4) |
| Baccalaureate | 1,362 (32.8) | 196 (15.3) | 1,165 (40.6) |
| Master’s | 2,261 (54.5) | 701 (54.8) | 1,566 (54.3) |
| Doctorate | 484 (11.7) | 378 (29.6) | 106 (3.7) |
| Employment setting | | | |
| Acute care—inapatient | 629 (15.4) | 164 (13.0) | 464 (16.4) |
| College, university, or academic medical center | 571 (13.9) | 395 (31.2) | 176 (6.2) |
| Ambulatory / outpatient care facility (eg, clinic, physician’s office, primary care) | 470 (11.5) | 120 (9.5) | 350 (12.4) |
| Private practice | 360 (8.8) | 63 (5.0) | 297 (10.5) |
| Long-term care | 279 (6.8) | 31 (2.5) | 248 (8.8) |
| Acute care—outpatient | 193 (4.7) | 59 (4.7) | 134 (4.7) |
| Social services organization (government or nongovernment) | 169 (4.1) | 39 (3.1) | 129 (4.6) |
| School nutrition | 91 (2.2) | 27 (2.1) | 64 (2.3) |
| Health or fitness facility | 65 (1.6) | 8 (0.6) | 57 (2.0) |
| Contract food management company | 64 (1.6) | 10 (0.8) | 54 (1.9) |
| Post—acute care or rehabilitation facility | 54 (1.3) | 13 (1.0) | 41 (1.5) |
| Nongovernmental organization (eg, UNICEFC, USAIDd) | 51 (1.3) | 25 (2.0) | 26 (0.9) |
| Food or equipment manufacturer, distributor, or retailer | 46 (1.1) | 10 (0.8) | 36 (1.3) |
| Home health | 41 (1.0) | 5 (0.4) | 36 (1.3) |
| Office | 38 (0.9) | 5 (0.4) | 33 (1.2) |
| Assisted living or group home | 33 (0.8) | 4 (0.3) | 29 (1.0) |
| Pharmaceutical or nutrition products manufacturer, distributor, or retailer | 33 (0.8) | 19 (1.5) | 14 (0.5) |
| Retail | 32 (0.8) | 7 (0.6) | 25 (0.9) |
| Trade or professional association | 26 (0.6) | 9 (0.7) | 17 (0.6) |
| College and university dining | 24 (0.6) | 7 (0.6) | 17 (0.6) |
| Restaurant | 14 (0.3) | 4 (0.3) | 10 (0.4) |
| Correctional facility | 13 (0.3) | 0 | 13 (0.5) |
| Sports medicine facility | 12 (0.3) | 7 (0.6) | 5 (0.2) |
| Surgery center | 10 (0.2) | 2 (0.2) | 8 (0.3) |
| Hospice or palliative care | 6 (0.2) | 0 | 6 (0.2) |
| Other a | 772 (18.9) | 232 (18.3) | 540 (19.1) |

aTotal number varies by question due to item nonresponse.
bResearcher status was self-reported and based on whether the participant had conducted research within the last 5 years. For this survey, “conducting research” included designing studies, writing and submitting applications or proposals, implementing studied interventions, collecting or analyzing data, writing or submitting articles for publication, presenting results outside of your organization, or supervision of any of these activities.
dUSAID = United States Agency for International Development.
e“Other” included any open-ended entries. Entries included consultant/self-employed, student, not currently working, on leave, and retired, among others.
<table>
<thead>
<tr>
<th>Priority descriptionb</th>
<th>Overall (n = 4190)</th>
<th>Researchers (n = 1279)</th>
<th>Nonresearchers (n = 2876)</th>
<th>P valuec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate the costs and impact of improving delivery of MNT and other dietetic services across various medical conditions and identify opportunities that exist for improved MNT delivery.</td>
<td>72.97 ± 21.54</td>
<td>72.62 ± 22.85</td>
<td>73.09 ± 20.96</td>
<td>.52</td>
</tr>
<tr>
<td>Advance our understanding of effective strategies for maintaining a healthy weight and the implementation of positive diet-related behavior changes in diverse populations.</td>
<td>72.59 ± 22.69</td>
<td>70.56 ± 24.10</td>
<td>73.46 ± 22.01</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Explore the role of the microbiome and of microbiome-supporting diets on health and disease across the life span.</td>
<td>71.84 ± 21.57</td>
<td>71.68 ± 21.45</td>
<td>71.91 ± 21.62</td>
<td>.75</td>
</tr>
<tr>
<td>Clarify nutrient needs associated with optimal outcomes in special populations (eg, postsurgical, critically ill adults, critically ill children, children with developmental disabilities, patients post—bariatric surgery, older adults).</td>
<td>69.45 ± 20.83</td>
<td>67.85 ± 21.97</td>
<td>70.06 ± 20.28</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Evaluate the role of nutrition in brain health throughout the life cycle.</td>
<td>69.20 ± 21.33</td>
<td>67.75 ± 22.28</td>
<td>69.79 ± 20.88</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Evaluate strategies to address current diet and health disparities and related chronic disease disparities among low-income and underrepresented persons.</td>
<td>68.87 ± 22.48</td>
<td>71.00 ± 23.08</td>
<td>67.93 ± 22.20</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Increase the understanding of absorption, digestion, metabolism, and excretion processes in states of health and disease.</td>
<td>68.20 ± 22.01</td>
<td>64.36 ± 23.52</td>
<td>69.83 ± 21.11</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Assess the efficacy of and applications for complementary, integrative, and functional approaches to health promotion and disease management.</td>
<td>68.11 ± 22.90</td>
<td>65.23 ± 24.62</td>
<td>69.34 ± 68.54</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Validate the clinical characteristics of malnutrition—in all its forms—across adult, child, and neonatal populations.</td>
<td>67.19 ± 22.62</td>
<td>66.50 ± 23.74</td>
<td>67.50 ± 22.12</td>
<td>.19</td>
</tr>
<tr>
<td>Advance our understanding of prenatal and neonatal nutritional factors, including parental health behaviors, impacting fetal development and childhood health.</td>
<td>67.00 ± 21.45</td>
<td>66.13 ± 22.37</td>
<td>67.36 ± 21.01</td>
<td>.09</td>
</tr>
<tr>
<td>Evaluate best practices for translating, disseminating, and scaling dietetic interventions across community and clinical settings.</td>
<td>66.86 ± 21.69</td>
<td>68.78 ± 21.86</td>
<td>66.00 ± 21.61</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Examine the impact of programs and policies that target social determinants of health on nutrition and nutrition-related health outcomes.</td>
<td>65.09 ± 23.17</td>
<td>67.82 ± 23.74</td>
<td>63.90 ± 22.87</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Explore the utility and application of emerging technologies to inform and advance dietetics programming and practice.</td>
<td>63.59 ± 21.86</td>
<td>63.30 ± 22.06</td>
<td>63.70 ± 21.77</td>
<td>.58</td>
</tr>
<tr>
<td>Assess the impact of differing production, processing, and food system practices on food access, dietary quality, and other nutritional outcomes.</td>
<td>62.88 ± 23.34</td>
<td>63.28 ± 23.84</td>
<td>62.61 ± 21.14</td>
<td>.4</td>
</tr>
</tbody>
</table>

*Mean ratings are out of a possible 100 points, where 0 represents “not a priority” and 100 represents “most important priority.”

bPriority descriptions include original wording used in survey. Task force has refined wording based on feedback from Academy stakeholder staff and leaders and final priority wording can be found in Figure 7.

P values were calculated with t tests and represent differences in mean ratings between researchers and nonresearchers. Bolded values indicate a statistically significant difference as indicated by P < .05.

dSD indicates standard deviation.

eMNT = medical nutrition therapy.
5402 responses, among which 4190 consented to participate and completed the survey. Most respondents had a master’s degree or higher level of education (66.1%), and the largest fraction of participants worked in acute care (inpatient) settings (15.4%). Approximately 31% of participants reported that they had conducted research within the last 5 years (see Table 2). For the purpose of this survey, “conducting research” could include designing studies, writing and submitting applications or proposals, implementing studied interventions, collecting or analyzing data, writing or submitting articles for publication, presenting results outside of your organization, or supervision of any of these activities. Among those who had conducted research within the last 5 years, the most common research areas were public health or community nutrition (43.8%) and clinical nutrition (39.4%).

Research priority mean rating ranged from 62.9 to 73.0 out of a possible 100 points. The highest-rated priority was related to the costs and impact of improving delivery of medical nutrition therapy (MNT) and other dietetic services, and the lowest-rated priority pertained to the impact of production, processing, and food system practices on food access, dietary quality, and other nutritional outcomes. Priority ratings differed significantly between researchers and non-researchers for 8 of 14 research priorities (see Table 3).

Qualitative Analysis of Open-Response Question
The qualitative analysis of responses to the open-ended question revealed
several themes. First, participants used this open-response question to provide feedback on the priorities or explain their ratings of one or more of the priorities. The most frequently referenced priority in these comments included to assess the impact of differing production, processing, and food system practices on food access, dietary quality, and other nutritional outcomes. Although this priority was the most poorly ranked, most of those who commented on this priority emphasized its importance.

One participant wrote: “As the experts on food and nutrition, dietitians MUST do everything possible to advance the adoption of sustainable food systems, legislative policies and individual diets for planetary health.” A few comments also suggested that the Academy should consider letting experts in other disciplines, outside of dietetics, lead the research on this topic.

Another commonly referenced priority in the comments, which was also the highest-ranked priority in the survey, was to evaluate the costs and impact of improving delivery of MNT and other dietetic services across various medical conditions and identify opportunities that exist for improved MNT delivery. The importance of this priority was highlighted by a comment from one participant that read “Our profession needs continued research to evaluate the efficacy of the RDN using MNT for a variety of diagnoses, as well as cost savings when MNT is part of the treatment plan. This is what stakeholders such as health insurance companies and legislators want to know! Our profession will not move ahead economically without valuation of the RDN providing MNT.”

Second, participants felt the Academy should prioritize research related to reimbursement for RDN services. One participant wrote: “I believe a top priority for the Academy should be to support and fund research that shows the need for, and the efficacy and effectiveness of, nutrition interventions by RDNs. This seems critical to elevating our profession, both for the profession’s future and economical sustainability. This is how the results of all the other research will inform who should deliver the services.” Another wrote: “If we cannot bill and get reimbursed, we cannot hold our spot in interdisciplinary care. We need evidence-based assessment, intervention, and the ability to quantify outcomes that are objective so that billing can move forward. Other disciplines are encroaching into our scope of practice.” Many of the comments pertaining to reimbursement also emphasized the importance of licensure.

Third, participants provided suggestions pertaining to the methodology of conducting research. Those suggestions commonly discussed the source of funding for conducting research, interdisciplinary research collaboration suggestions, and the types of outcome measures that would be most valuable. In general, commenting respondents thought there should be consistent transparency with regard to research funding and a greater focus on funding research that supports value and effectiveness of the RDN, suggested collaboration with other health care and allied professionals such as food scientists, global partners, and major organizations such as the National Institutes of Health; and emphasized the importance of focusing research efforts on nutrition-related patient health outcomes, such as biomarkers and behavior change. Several participants suggested that focusing on patient-centered outcomes would be valuable in future research.

Additionally, participants frequently emphasized the importance of evidence-based practice and conducting research to discern the effectiveness of specific interventions, such as the Health at Every Size approach.

PRIORITY MEMBER CHECKING PROCESS

Over the course of 2019, task force representatives presented the team’s progress and tentative results to a subset of Academy stakeholders to solicit feedback ahead of the final 2 steps: priority clarification and dissemination. Such presentations were made at the Academy’s Council on Research Face-to-Face meeting in June 2019, the Academy Board of Directors meeting in September 2019, and at the Food and Nutrition Conference and Expo in November 2019. The presentations provided an opportunity to ask stakeholders questions such as: “What are other ways in which we can solicit feedback and input from members and other stakeholders?”; “To what degree do you anticipate using the research priorities in your work?”; “In what ways can Academy stakeholders support communication of the final research priorities?”; and “How can the final priorities be organized into a framework?” Relevant notes from presentations and task force meetings were documented for reference by future Academy task forces of this nature and shared with nonpresent task force members to facilitate reflection and inform next steps.

FINAL RESEARCH PRIORITIES

As presented in the Results section, the survey did not result in the identification of a subset of priorities for which there was greater preference among Academy-affiliated respondents. However, upon further discussion, the task force did identify overlap between 2 priorities. Thus, the task force opted to include 13 priorities and to refine their wording based on feedback from Academy stakeholder staff and leaders. See Figure 7 for the final, categorized priorities.

CONCLUSION

The Academy Research Priorities and Strategies Development task force developed and engaged in an evidence-based, 9-step process for identifying and refining a new set of research priorities for Academy stakeholders. These research priorities are intended as a resource for both internal and external stakeholders and have applications for undergraduate- and graduate-level education and mentoring, for use in clinical and community practice, for those in management roles, and as a tool to motivate and facilitate research collaborations. The task force acknowledges that there are additional research priorities that may fall outside the scope of the Academy or are currently being undertaken by other agencies. The priorities listed in this document highlight research priorities for nutrition and dietetics professionals and will include collaboration with other disciplines on numerous topics. Although the priorities were drafted with a domestic focus, the task force believes that there may be overlap with other global
The priority setting process, from start to finish, was an extensive effort that took between 1 and 2 years to complete. Therefore, the task force recommends that future Academy research priority setting groups review and revalidate the priorities every 3 to 5 years, as needed based on Academy leader discretion, and revise them more thoroughly, and in accordance with the 9-step process, every 10 years. Interested readers can refer to the task force's final report for more details on each priority, relevant topics and potential study designs therein, and for an explanation of how the priorities can be used not only to inform research, but also practice, education, and policy.

References
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STATEMENT OF POTENTIAL CONFLICT OF INTEREST
No potential conflict of interest was reported by the authors.

FUNDING/SUPPORT
There is no funding to disclose.

ACKNOWLEDGEMENTS
We thank Alison Steiber, PhD, RDN, Dustin Valdez, Ricardo Martinez Barron, MS, and Vanessa Araujo Almeida, MS, for their contributions to this project.

AUTHOR CONTRIBUTIONS
All authors were involved in the project development, data interpretation, and manuscript writing. G. V. Proaño, K. Kelley, and J. A. Garner were also involved in data analysis.
Research priorities: Importance ratings

Please rate the importance of the research priorities listed below. As you rate them, consider the following criteria:

- Which topics represent a significant disease burden and/or affect a large proportion of the population?
- Which topics have potential for significant health impact and/or improvement in health outcomes?
- Which topics have potential to change current nutrition practice across various settings?

1. Assess the impact of differing production, processing, and food system practices on food access, dietary quality, and other nutritional outcomes.
2. Evaluate strategies to address current diet and health disparities and related chronic disease disparities among low-income and underrepresented persons.
3. Examine the impact of programs and policies that target social determinants of health on nutrition and nutrition-related health outcomes.
5. Increase the understanding of absorption, digestion, metabolism, and excretion processes in states of health and disease.
6. Evaluate the costs and impact of improving delivery of MNT and other dietetic services across various medical conditions and identify opportunities that exist for improved MNT delivery.
7. Advance our understanding of effective strategies for maintaining a healthy weight and the implementation of positive diet-related behavior changes in diverse populations.
8. Advance our understanding of prenatal and neonatal nutritional factors, including parental health behaviors, impacting fetal development and childhood health.
9. Validate the clinical characteristics of malnutrition—in all its forms—across adult, child, and neonatal populations.
11. Explore the role of the microbiome and of microbiome-supporting diets on health and disease across the life span.
12. Evaluate the role of nutrition in brain health throughout the life cycle.
13. Assess the efficacy of and applications for complementary, integrative, and functional approaches to health promotion and disease management.
14. Explore the utility and application of emerging technologies to inform and advance dietetics programming and practice.

Demographics

15. What is the highest degree that you have earned or are currently pursuing? Please select only one option.
   - Doctorate
   - Master’s
   - Baccalaureate
   - Associates

16. Which option most closely matches the nature of your primary employer? Please select only one option.
   - Acute care—inpatient
   - Acute care—outpatient
   - Ambulatory/outpatient care facility (eg, clinic, physician’s office, primary care)
   - Assisted living or group home
   - College and university dining

(continued on next page)
17. Have you conducted research in the last 5 years?
For the purpose of this survey, "research" is defined as “a systematic investigation—including research planning, testing, and evaluation—designed to develop or contribute to generalizable knowledge.” QI\textsuperscript{6} projects do not count as research if there are no plans to share findings outside of your institution.
Conducting research may include designing studies, writing and submitting applications or proposals, implementing studied interventions, collecting data, analyzing data, writing or submitting articles for publication, presenting results outside of your organization, or supervision of any of these activities.
   ○ Yes [Continue to question 18.]
   ○ No [Skip to question 19.]

18. In which of the following areas do you conduct research? Please select all that apply.
   ■ Basic nutrition research (eg, genomics; physiology; metabolism; any wet lab work)
   ■ Clinical nutrition research (eg, to improve treatment or management of disease)
   ■ Public health/community nutrition research (eg, program implementation; program evaluation; policy development)
   ■ Epidemiology
   ■ Nutrition-related business research (eg, food service; administration; informatics)
   ■ Food science research (eg, food safety; food composition; product development)
   ■ Dietetics profession research (eg, nutrition care planning; dietary assessment methods; dietetics education)
   ■ Other research; please specify (free text box)

Open-ended / free text question (optional)

19. Do you have any comments about or suggestions for this survey, the listed priorities, or our larger priority setting process?

\textsuperscript{a}Questions 1 to 14 included a slider scale from 0 ("not a priority") to 100 ("most important priority").
\textsuperscript{b}MNT = medical nutrition therapy.
\textsuperscript{c}UNICEF = United Nations Children’s Fund.
\textsuperscript{d}USAID = United States Agency for International Development.
\textsuperscript{e}QI = quality improvement.