



# Using Nutrition Evidence to Inform Individualised Care

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Diet is key to the maintenance of health and crucial in the prevention and management of many diseases. Modified nutrient intake may become essential to prevent deficiency, optimise development and health, or manage symptoms and disease progression. A new Position Paper<sup>1</sup> from the Academy of Nutrition Sciences (ANS),<sup>2</sup> established in 2019 to provide a collective voice for the nutrition science discipline, provides a state-of-the-art summary of how evidence-based practice, with a particular emphasis on research evaluation, is used to inform nutrition interventions for individuals.

Of major importance to evidence-based nutrition and dietetic practice is the ability to critically appraise the quality and certainty of research evidence in terms of: (i) whether an appropriate study design has been used to answer the clinical question; (ii) the methodological quality of the study (i.e. specific aspects of the methods); and (iii) the overall quality and certainty of the evidence as a basis for deriving recommendations.

Developed in collaboration with registered dietitians and nutritionists working in the UK, Canada and the USA, the paper examines available frameworks for appraising quality and certainty of nutrition research evidence. It also considers the development of nutrition guidelines to support evidence implementation in practice and the influence of other sources of nutrition information, including misinformation. Furthermore, the Position Paper<sup>1</sup> provides a list of critical appraisal tools for use with different study designs, including tools to assess the risk of bias.

## Clinical practice guidelines

A primary method through which research evidence is used to guide individualised nutrition interventions is the development of clinical practice guidelines. These are “systematically developed statements to assist practitioner and patient decisions about appropriate health care for specific clinical circumstances” (Institute of Medicine Committee to Advise the Public Health Service on Clinical Practice, 1990).<sup>3</sup>

The aim of these guidelines is to bridge the gap between research and clinical practice, guiding the practitioner and patient to implement treatments based on the best available evidence. Importantly, evidence-based practice recognises that research evidence is integrated with clinical expertise and patient preference, described as a ‘three-legged stool’ to emphasise that without one of these elements, evidence-based clinical decision-making collapses.<sup>4</sup>

Examples of published guidelines that support delivery of nutrition interventions by nutrition and dietetic professionals include the Evidence Analysis Library (EAL) and the Practice-based Evidence in Nutrition® (PEN). The EAL is hosted and reviewed by the US Academy of Nutrition & Dietetics<sup>5</sup> and PEN is an online nutrition knowledge translation platform jointly managed by Dietitians of Canada, the British Dietetic Association and Dietitians Australia.<sup>6</sup> The EAL and PEN illustrate different approaches in applying research evidence to individual clients. They promote objectivity, transparency and reproducibility, while minimising issues such as conflicts of interest. The Position Paper<sup>1</sup> includes a useful table comparing the development processes for EAL and PEN.

### Challenges identified

The ANS Position Paper<sup>1</sup> recognises a number of strengths in the progress made to date, including: (i) implementation of research through transparent guidelines; (ii) defined processes for the development of national and international guidelines; (iii) developments and collaborations in the form of EAL and PEN.

But obstacles remain and Hickson *et al.*<sup>1</sup> also identify major challenges in applying research evidence to individuals. Perhaps the most obvious of these, despite the increasing quantity and quality of robustly performed research studies, is the abundance of conflicting information and misinformation that has to be navigated from diverse sources. These sources include non-qualified practitioners, social media influencers and celebrities, the proliferation of fad diets and health products, and the tendency to use sensational headlines to attract more clicks, views and sales. Further challenges include applying population-based guidance on nutrient intakes to the individual, the immense inter-individual variation in interactions between people's health condition(s) and their real lives (e.g. values, preferences and experiences), and the lack of consensus on the most appropriate nutrition-specific outcomes for use in monitoring. These challenges need to be considered when planning and delivering nutritional interventions, and collectively mean there is a need for highly tailored and individualised care.

### Conclusion & recommendations from the Academy

Ten consensus recommendations are made, addressed to three specific audiences:

- i. **Nutrition and dietetic professionals**, and their professional bodies
- ii. **Researchers** – those funding, commissioning or undertaking research aimed at delivering evidence-based practice (e.g. grant funding bodies, guideline developers, researchers, etc.)
- iii. **Disseminators** – those disseminating nutrition information to patients and the public (people in the media, journalists, policy makers, politicians, other healthcare professionals, etc.)

An evidence-based approach to delivery of individualised nutrition advice is crucial to ensure an intervention is efficacious and most likely to be acceptable, effective and safe. The Academy advises that the highest levels of evidence are sometimes not possible to achieve due to the nature of human nutrition and diet research. Therefore, it recommends that the concept of using the entirety of the best available evidence should be applied in prescribing nutrition interventions for individuals by nutrition and dietetic professionals, for example evidence of best practice, and stresses the importance of continual profession development. Other key recommendations focus on ensuring nutrition and dietetic curricula and competencies are subject to continuous review and on the need for professional bodies to drive evidence-based practice.

One of the recommendations addressed to the research community and those seeking to conduct research in nutrition is that a greater understanding of the most robust research designs for use in nutritional interventions aimed at individuals is required. The development of a hierarchy of evidence specifically for nutrition studies for individualised care is needed, which reflects the concepts of study quality, best available evidence, and individualisation. Furthermore, there is a need for patient and public involvement and engagement within research to ensure the lived experience is at the heart of research. There is also a need to understand the barriers to, and facilitators of, implementation of research into clinical practice.

Finally, for those disseminating nutritional information, a key recommendation concerns a need for people conveying nutritional evidence to have the necessary skills to interpret and identify reliability of this information. This will help ensure reliable and accurate information is shared with individuals.

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This Position Paper<sup>1</sup> offers a comprehensive overview of how peer-reviewed evidence should be used in practice and provides a valuable resource for nutrition and dietetic students, as well as qualified professionals. The full set of recommendations can be found within the Position Paper and are summarised in an editorial by Buttriss, *et al.*<sup>7</sup> Information about other Position Papers from the Academy of Nutrition Sciences is

provided in the **Figure 1**. The three Position Papers were the focus of a series of Academy of Nutrition Sciences webinars hosted by the British Dietetic Association in May, which explored the challenges identified and the recommendations made in the Position Papers. Recordings of the webinars are free to access and can be found at: [www.bda.uk.com/events/webinars/academy-of-nutrition-sciences-webinars.html](http://www.bda.uk.com/events/webinars/academy-of-nutrition-sciences-webinars.html).

### Figure 1: Previous Position Papers from the Academy

#### The Position Paper builds on previous Position Papers from the Academy of Nutrition Sciences.

##### *ANS Position Paper: Evidence for Dietary Recommendations*

The first Position Paper,<sup>8</sup> published in December 2020 in the *British Journal of Nutrition*, focused on the nature of the evidence base underpinning dietary recommendations and the systematic processes used by expert panels to ensure that rigour, relevance and consistency are brought to their conclusions. An overview can be found here: <https://bit.ly/ACADNS1>.

In addition to the full paper, there were accompanying editorials in *Nutrition Bulletin*<sup>9</sup> and *Journal of Human Nutrition and Dietetics*,<sup>10</sup> which highlight the Academy's recommendations. The Position Paper also addresses some of the challenges inherent in studying diet-disease relationships and lessons learned over the past 45 years of evidence-based policy making in dietary prevention of non-communicable diseases, such as cancers and cardiovascular diseases. One such challenge concerns the investigation of the biological mechanisms underlying diet-disease relationships through experimental studies. A recent publication<sup>11</sup> by one of the Position Paper's authors discusses this in detail and it is also explored in a blog.<sup>12</sup>

##### *ANS Position Paper: Evidence for Health Claims*

The second Position Paper<sup>13</sup> on use of nutrition evidence, published in the *British Journal of Nutrition* in November 2022, focuses on the Nutrition and Health Claims Regulation and use of evidence to support health claims for foods. An overview can be found here: <https://bit.ly/ACADNS2>.

A blog<sup>14</sup> discussing why health professionals need to know about the processes in place to regulate the use of such claims is available and accompanying editorials appeared in *Nutrition Bulletin*<sup>15</sup> and the *Journal of Human Nutrition and Dietetics*.<sup>16</sup> These editorials summarise the recommendations and highlight the implications of the Regulation for nutrition and dietetic professionals.

References: **1.** Hickson M, *et al.* (2024) Nature of the evidence base and approaches to guide nutrition interventions for individuals: a position paper from the Academy of Nutrition Sciences. *Br J Nutr.*; 131(10): 1754-1773. **2.** Academy of Nutrition Sciences (2024). Accessed online: [www.academynutritionsciences.org.uk/about](http://www.academynutritionsciences.org.uk/about) (Jun 2024). **3.** Institute of Medicine Committee to Advise the Public Health Service on Clinical Practice Guidelines (1990) *Clinical Practice Guidelines: Directions for a New Program*. Washington, DC: National Academies Press (US). **4.** Peterson CB, *et al.* (2016) The three-legged stool of evidence-based practice in eating disorder treatment: research, clinical, and patient perspectives. *BMC Med.*; 14: 69. **5.** Academy of Nutrition and Dietetics (2022) *Evidence Analysis Manual*. Accessed online: [www.andea.org/evidence-analysis-manual](http://www.andea.org/evidence-analysis-manual) (Feb 2024). **6.** Neale EP, Tapsell LC. (2019). Perspective: the evidence-based framework in nutrition and dietetics: implementation, challenges, and future directions. *Adv Nutr.*; 10(1): 1-8. **7.** Buttriss J, *et al.* (2024a) Navigating the complexity of applying nutrition evidence to individualised care: Summary of an Academy of Nutrition Sciences Position Paper. *Nutrition Bulletin.*; 49(1): 1-5. **8.** Williams CM, *et al.* (2021). Nature of the evidence base and frameworks underpinning dietary recommendations for prevention of non-communicable diseases: a position paper from the Academy of Nutrition Sciences. *Br J Nutr.*; 126(7): 1076-1090. **9.** Williams CM, Buttriss JL, Whelan K. (2021). Synthesising nutrition science into dietary guidelines for populations amidst the challenge of fake news: Summary of an Academy of Nutrition Sciences position paper. *Nutrition Bulletin.*; 46(1): 2-7. **10.** Williams CM, Buttriss JL, Whelan K. (2021). Synthesising nutrition science into dietary guidelines for populations amidst the challenge of fake news: Summary of an Academy of Nutrition Sciences position paper. *J Hum Nutr Diet.*; 34(3): 467-71. **11.** Williams CM (2023). Mechanistic evidence underpinning dietary policy: bringing the jigsaw pieces together? *Proceedings of the Nutrition Society.*; 82(2): 219-226. **12.** Academy of Nutrition Sciences. The importance of transparent frameworks for the assessment of evidence. Accessed online: [www.academynutritionsciences.org.uk/outputs-and-activities/the-importance-of-transparent-frameworks-for-the-assessment-of-evidence](http://www.academynutritionsciences.org.uk/outputs-and-activities/the-importance-of-transparent-frameworks-for-the-assessment-of-evidence) (June 2024). **13.** Ashwell M, *et al.* (2023). Nature of the evidence base and strengths, challenges and recommendations in the area of nutrition and health claims: a Position Paper from the Academy of Nutrition Sciences. *Br J Nutr.*; 130(2):221-238. **14.** Academy of Nutrition Sciences. Why do health professionals need to know about the nutrition and health claims regulation? Accessed online: [www.academynutritionsciences.org.uk/outputs-and-activities/why-do-health-professionals-need-to-know-about-the-nutrition-and-health-claims-regulation](http://www.academynutritionsciences.org.uk/outputs-and-activities/why-do-health-professionals-need-to-know-about-the-nutrition-and-health-claims-regulation) (June 2024). **15.** Stanner S, Ashwell M, Williams CM. (2022) Why do health professionals need to know about the nutrition and health claims regulation? Summary of an Academy of Nutrition Sciences Position Paper. *Nutrition Bulletin.*; 48(1): 1-5. **16.** Stanner S, Ashwell M, Williams CM. (2022). Why do health professionals need to know about the nutrition and health claims regulation? Summary of an Academy of Nutrition Sciences Position Paper. *J Hum Nutr Diet.*; 36(1): 12-16.