



## Invited Commentary

# The issue of nutrition training in health professions

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The commentary in this journal reporting on the inclusion of public health nutrition in medical education in the UK<sup>(1)</sup> is an important reminder of the great need for such measures. The adequacy of nutrition education of medical doctors has long been a concern not only in the UK<sup>(2)</sup> and the rest of Europe<sup>(3)</sup>, but also in the USA<sup>(4,5)</sup> as well as low- and middle-income countries such as those in Africa for example<sup>(6)</sup>. However, it is also increasingly recognized that all health-care professions need basic nutrition training, not just medical doctors<sup>(7)</sup>. This training should not just be about basic nutrition science, but also on how to assess dietary intake and provide appropriate nutritional guidance, counselling and nutrition education, and treatment to patients. Furthermore, a recommended strategy to move forward the integration of nutrition education into the training of health professionals is the use of an inter-professional approach, which will promote teamwork for learning and patient care<sup>(8)</sup>.

Fortunately, the number of initiatives aimed at trying to increase and improve the nutrition competencies of medical professionals is growing in higher-income countries<sup>(9)</sup>. In the UK, for example, the Need for Nutrition Education/Innovation Programme has pursued a phased approach to the generation of evidence that improved medical nutrition is needed and can have an impact<sup>(10–12)</sup>. In the USA, core nutrition competencies have been proposed for medical students and are continuously updated<sup>(8)</sup>. In Italy, the Federation of Nutrition Societies has identified three main domains of human nutrition, namely basic nutrition, applied nutrition and clinical nutrition<sup>(13)</sup>. Thirty-two items attributed to one or more of the three domains have been ranked, considering their diverse importance for academic training in the different domains of human nutrition. The hope is that a better integration of the professionals involved in the field of human nutrition will eventually occur based on the progressive consolidation of knowledge, competence and skills in the different areas and domains of this discipline. For this to happen there is a growing recognition that dietitians and nutrition professionals must assume a leadership role in medical education training for health-care professionals<sup>(14)</sup>.

The ideal structure and organization of the nutrition workforce across the various sectors and levels of government is still not widely acknowledged, however. It has been proposed that the nutrition workforce is best

portrayed as a pyramid<sup>(15)</sup>, with the base consisting of community health, nutrition and extension workers who deliver nutrition services directly to populations (e.g. child growth monitoring and promotion). The middle levels are the medical doctors, nurses and midwives who deal directly with patients through health services, as well as the extension workers who deliver interventions through the agriculture and education sectors for example. A specialist public health nutrition professional is required as the manager in each health administrative area, overseeing the work of other health staff and related staff from other sectors. Perhaps the greatest challenge for the public health nutrition specialist is providing guidance to the many health professionals at the periphery of health services to deliver nutrition-specific and sensitive interventions and specially to enable them to build capacity at the community level. The upper levels of the pyramid are nutritionists and dietitians with different levels of university training for overseeing and carrying out various roles: from implementation of programmes and nutrition counselling at individual and community level, through programming and coordination, up to planning, advocacy and research at national level.

Others have pointed out the shortage in quantity, quality and geographic coverage of the nutrition workforce<sup>(16)</sup>. More investments are certainly needed to increase the number of dietitians and nutritionists worldwide and especially in low- and middle-income countries<sup>(17)</sup>. Yet, although this tier of the nutrition workforce are the ones who should be leading nutrition programmes in various contexts, given their limited number, capacity development of personnel of other health sectors (e.g. nurses, medical doctors, front-line workers) at all levels is needed to improve maternal, infant and young child nutrition<sup>(18)</sup>, as well as for the prevention and management of diet-related chronic disease in the whole population. The complexity of nutrition as a discipline and practice tends to be overlooked though, which underlines the need to have a specific preparation and guidance to be delivered to doctors, nurses and community health workers<sup>(19)</sup>.

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## References

- Broad J & Wallace M (2018) Nutrition and public health in medical education in the UK: reflections and next steps (Commentary). *Public Health Nutr*. Published online: 30 April 2018. doi: 10.1017/S1368980018000800.
- Davis CH (1994) The report to congress on the appropriate federal role in assuring access by medical students, residents, and practicing physicians to adequate training in nutrition. *Public Health Rep* **109**, 824–826.
- Adams KM, Kohlmeier M & Zeisel SH (2010) Nutrition education in US medical schools: latest update of a national survey. *Acad Med* **85**, 1537–1542.
- Leslie FC & Thomas S (2009) Competent to care: are all doctors competent in nutrition? *Proc Nutr Soc* **68**, 296–299.
- Chung M, van Buul VJ, Wilms E *et al.* (2014) Nutrition education in European medical schools: results of an international survey. *Eur J Clin Nutr* **68**, 844–846.
- Sodjinou R, Bosu WK, Fanou N *et al.* (2014) Nutrition training in medical and other health professional schools in West Africa: the need to improve current approaches and enhance training effectiveness. *Glob Health Action* **7**, 24827.
- DiMaria-Ghalili RA, Mirtallo JM, Tobin BW *et al.* (2014) Challenges and opportunities for nutrition education and training in the health care professions: intra-professional and inter-professional call to action. *Am J Clin Nutr* **99**, 5 Suppl., 1184S–1193S.
- Kushner RF, Van Horn L, Rock CL *et al.* (2014) Nutrition education in medical school: a time of opportunity. *Am J Clin Nutr* **99**, 5 Suppl., 1167S–1173S.
- Kris-Etherton PM, Akabas SR, Douglas P *et al.* (2015) Nutrition competencies in health professionals' education and training: a new paradigm. *Adv Nutr* **6**, 83–87.
- Ray S, Udumyan R, Rajput-Ray M *et al.* (2012) Evaluation of a novel nutrition education intervention for medical students from across England. *BMJ Open* **2**, e000417.
- Ray S, Laur C, Douglas P *et al.* (2014) Nutrition education and leadership for improved clinical outcomes: training and supporting junior doctors to run 'Nutrition Awareness Weeks' in three NHS hospitals across England. *BMC Med Educ* **14**, 109.
- Ball L, Crowley J, Laur C *et al.* (2014) Nutrition in medical education: reflections from an initiative at the University of Cambridge. *J Multidiscip Healthc* **7**, 209–215.
- Donini LM, Leonardi F, Rondanelli M *et al.* (2017) The domains of human nutrition: the importance of nutrition education in academia and medical schools. *Front Nutr* **4**, 2.
- Kris-Etherton PM, Akabas SR, Bales CW *et al.* (2014) The need to advance nutrition education in the training of health care professionals and recommended research to evaluate implementation and effectiveness. *Am J Clin Nutr* **99**, 5 Suppl., 1153S–1166S.
- Shrimpton R, du Plessis LM, Delisle H *et al.* (2016) Public health nutrition capacity: assuring the quality of workforce preparation for scaling up nutrition programmes. *Public Health Nutr* **19**, 2090–2100.
- Fanzo JC, Grazioze MW, Kraemer K *et al.* (2015) Educating and training a workforce for nutrition in a post-2015 world. *Adv Nutr* **6**, 639–647.
- Ellahi B, Annan R, Sarkar S *et al.* (2015) Building systemic capacity for nutrition: training towards a professionalised workforce in Africa. *Proc Nutr Soc* **74**, 496–504.
- World Health Organization (2014) *Comprehensive Implementation Plan on Maternal, Infant and Young Child Nutrition*. Geneva: WHO.
- Delisle H, Shrimpton R, Blaney S *et al.* (2017) Capacity-building for a strong public health nutrition workforce in low-resource countries. *Bull World Health Organ* **95**, 385–388.