

Patient-Centred Care in Cancer is Incomplete without Nutrition: the Joint Statement of the EU Thematic Network on Integrated Nutrition in Cancer Care (INC 2)

Authors: Nicole Erickson^{1,2,3*}, Erin Stella Sullivan^{1,4*}, Marianna Kalliostra^{1,3,5}, Alessandro Laviano^{1,5}, Joost Wesseling^{1,5}, on behalf of the EU Thematic Network on Integrated Nutrition in Cancer Care (INC²).

*Joint First Authors

Affiliations: ¹ Writing Group of the European Union Thematic Network on Integrated Nutrition in Cancer Care (INC²); ² Comprehensive Cancer Center, Ludwig-Maximilian University Clinic, Munich, Germany; ³ European Federation of the Associations of Dietitians (EFAD); ⁴ School of Food & Nutritional Sciences, University College Cork, Ireland; ⁵ The European Nutrition for Health Alliance; ⁶ Department of Translational and Precision Medicine, Sapienza University of Rome, Rome, Italy.

Partners of the EU Thematic Network on Integrated Nutrition in Cancer Care (INC²):

- The European Cancer Organisation (ECO)
- The European Society for Medical Oncology (ESMO)
- The European Cancer Patient Coalition (ECPC)
- The European Federation of Associations of Dietitians (EFAD)
- The European Society for Clinical Nutrition and Metabolism (ESPEN)
- The European Association for the Study of Obesity (EASO)
- The European Oncology Nursing Society (EONS)
- The European Association for the Study of the Liver (EASL)
- The European Nutrition for Health Alliance (ENHA)
- The European Medical Students' Association (EMSA)
- The European Network of Dietetic Students (ENDietS)



Introduction

Patient-centred care in cancer is not complete without nutrition. In fact, the Hippocratic Oath alludes to the importance of nutrition in a medical setting and Europe's Beating Cancer Plan calls for a holistic approach to cancer (1,2).

Nutrition interventions throughout the cancer care continuum directly improve clinical and socioeconomic outcomes. While awareness of the negative impact of malnutrition on clinical outcomes, quality of life, and functional and emotional wellbeing in cancer is growing, there is relatively poor awareness amongst clinicians and patients alike, that nutritional interventions are effective in improving such outcomes (3,4). Robust evidence shows that nutritional interventions, particularly early in the disease course, can positively impact the clinical trajectory and health-related quality of life (5–8). When considering nutrition as a human right, the impact on quality of life and functional status must be prioritized, as these may be equally as important to patients, particularly in advanced cancer where improvements in clinical outcomes such as survival or tumour burden may not be attainable. From a clinical perspective, championing Integrating Nutrition into Cancer Care is the duty and ethical responsibility of clinicians. For the policymakers or service providers, it is important to note the economic advantages of early incorporation of nutritional care in cancer (9–11).

In the follow-up publication of the EU Thematic Network on Integrated Nutrition in Cancer Care (INC²), we summarise the evidence of efficacy and medical benefits, as well as the human rights perspective, and economic basis for integrated nutrition care in cancer and provide initial recommendations on advocacy for evidence-based care provision, improved quality assurance in clinical settings, and actions needed at the European level to ensure the Beating Cancer Plan doesn't leave nutrition behind.

Integrating Nutrition into Cancer Care Requires a Plan

Scaled integration of these and other emerging nutrition interventions into healthcare would require significant economic investment and continued rigorous research but in the end the cost benefit is proven(10,12). To implement integrated nutritional care in cancer, coordination of



messaging is needed. To support policy makers, service providers, and patient advocates the following first steps are recommended:

Step 1: Widespread advocacy is required to raise awareness amongst clinicians and patients, policymakers and healthcare management about the role of nutrition within the multidisciplinary team (MDT) (for example, nurses, physicians, and allied healthcare professionals). This call to action should refer to the key aspects of evidence, human rights and economic value outlined above, in the context of cancer prevention, through to management of cancer.

Step 2: Cancer services should urgently incorporate key performance indicators into their regular quality assurance systems to benchmark and audit adherence to evidence-based nutrition recommendations. These KPIs should be evidence-based or at least based on expert consensus. ESPEN, ESMO, COSA and others have many such guidelines (13–17) which could be used as starting points to develop a quality assurance standards for Integrated Nutrition Care in Cancer. At an absolute minimum, audits should report on malnutrition screening, oncology specific dietetic staffing and availability of nutrition assessment for all patients with high-risk diagnoses (e.g., head & neck cancers, gastrointestinal cancers, high-dose chemotherapy, radiotherapy to the head & neck or pelvis).

Step 3: At the European level, several of the actions of the Beating Cancer Plan should include nutrition, notably, the plan mentions the role of diet and exercise in cancer prevention but does not focus on the specific role of nutrition within the management of cancer. Integrated Nutrition Care is essential across the cancer care continuum, from prevention of cancer in the first place, right through to end of life care. As well as European-level actions, regional cancer prevention initiatives must continue to prioritise nutrition in accordance with the European Code Against Cancer (18), as well as address the multifaceted role of, and at times, co-presentation of obesity and undernutrition. In order to maximise the effect of a number of the flagship initiatives arising from the Beating Cancer Plan (2), 'National Comprehensive Cancer Centre' accreditation



should be associated with a minimum acceptable level of nutrition and dietetic service provision, in which all cancer patients are nutritionally screened, the dietitian is a core part of the MDT, and all members of the MDT receive basic and regular nutritional training. The 'Knowledge Centre on Cancer', 'Inter-Specialty Training Programme', 'Cancer Diagnostic and Treatment for All', 'Partnership on Personalised Medicine', 'Better life for cancer patients', 'Cancer Inequalities Registry', "EU-Network of Comprehensive Cancer Centres" and 'Guidelines and Quality Assurance' initiatives must explicitly include nutritional care.

Conclusion

Patient-centred care, which by nature includes nutrition, is a basic right for people living with and beyond cancer, and is the foundation of standard cancer care. Moreover, high-quality cancer care is not complete, nor as effective, without nutrition care. Integrated Nutrition Care in Cancer requires coordinated action at all levels, meaning that all stakeholders must take responsibility for securing implementation. These recommendations on advocacy, evidence, quality assurance and European actions should act as an essential guide to ensuring that Europe's Beating Cancer Plan and other programmes do not leave nutrition behind.

References

- 1. Galmarini CM. Lessons from Hippocrates: Time to Change the Cancer Paradigm. Int J Chronic Dis. 2020;2020:4715426.
- 2. Communication from the Commission to the European Parliament and the Council Europe's Beating Cancer Plan [Internet]. European Commission; [cited 2022 Mar 2]. Available from: https://ec.europa.eu/health/system/files/2022-02/eu_cancer-plan_en_0.pdf
- 3. Deftereos I, Kiss N, Brown T, Carey S, Carter VM, Usatoff V, et al. Awareness and perceptions of nutrition support in upper gastrointestinal cancer surgery: A national survey of multidisciplinary clinicians. Clin Nutr ESPEN. 2021 Dec;46:343–9.
- 4. Kiss N, Bauer J, Boltong A, Brown T, Isenring L, Loeliger J, et al. Awareness, perceptions and practices regarding cancer-related malnutrition and sarcopenia: a survey of cancer clinicians. Support Care Cancer. 2020 Nov;28(11):5263–70.



- 5. Prado CM, Purcell SA, Laviano A. Nutrition interventions to treat low muscle mass in cancer. Journal of Cachexia, Sarcopenia and Muscle. 2020;11(2):366–80.
- 6. Schuetz P, Fehr R, Baechli V, Geiser M, Deiss M, Gomes F, et al. Individualised nutritional support in medical inpatients at nutritional risk: a randomised clinical trial. The Lancet. 2019 Jun;393(10188):2312–21.
- 7. Laviano A, Di Lazzaro L, Koverech A. Nutrition support and clinical outcome in advanced cancer patients. Proc Nutr Soc. 2018 Nov;77(4):388–93.
- 8. Britton B, Baker AL, Wolfenden L, Wratten C, Bauer J, Beck AK, et al. Eating As Treatment (EAT): A Stepped-Wedge, Randomized Controlled Trial of a Health Behavior Change Intervention Provided by Dietitians to Improve Nutrition in Patients With Head and Neck Cancer Undergoing Radiation Therapy (TROG 12.03). Int J Radiat Oncol Biol Phys. 2019 Feb 1;103(2):353–62.
- 9. Pimiento JM, Evans DC, Tyler R, Barrocas A, Hernandez B, Araujo-Torres K, et al. Value of nutrition support therapy in patients with gastrointestinal malignancies: a narrative review and health economic analysis of impact on clinical outcomes in the United States. J Gastrointest Oncol. 2021 Apr;12(2):864–73.
- 10. Schuetz P, Sulo S, Walzer S, Vollmer L, Stanga Z, Gomes F, et al. Economic evaluation of individualized nutritional support in medical inpatients: Secondary analysis of the EFFORT trial. Clin Nutr. 2020 Nov;39(11):3361–8.
- 11. Muscaritoli M, Krznarić Z, Singer P, Barazzoni R, Cederholm T, Golay A, et al. Effectiveness and efficacy of nutritional therapy: A systematic review following Cochrane methodology. Clinical Nutrition. 2017 Aug 1;36(4):939–57.
- 12. Nekhlyudov L, Levit L, Hurria A, Ganz PA. Patient-centered, evidence-based, and cost-conscious cancer care across the continuum: Translating the Institute of Medicine report into clinical practice. CA Cancer J Clin. 2014 Dec;64(6):408–21.
- 13. Arends J, Bachmann P, Baracos V, Barthelemy N, Bertz H, Bozzetti F, et al. ESPEN guidelines on nutrition in cancer patients. Clin Nutr. 2017 Feb;36(1):11–48.
- 14. Arends J, Baracos V, Bertz H, Bozzetti F, Calder PC, Deutz NEP, et al. ESPEN expert group recommendations for action against cancer-related malnutrition. Clin Nutr. 2017 Oct;36(5):1187–96.
- 15. Arends J, Strasser F, Gonella S, Solheim TS, Madeddu C, Ravasco P, et al. Cancer cachexia in adult patients: ESMO Clinical Practice Guidelines ★. ESMO Open. 2021 Jun;6(3):100092.



- 16. Kiss N, Loeliger J, Findlay M, Isenring E, Baguley BJ, Boltong A, et al. Clinical Oncology Society of Australia: Position statement on cancer-related malnutrition and sarcopenia. Nutr Diet. 2020 Sep;77(4):416–25.
- 17. Talwar B, Donnelly R, Skelly R, Donaldson M. Nutritional management in head and neck cancer: United Kingdom National Multidisciplinary Guidelines. J Laryngol Otol. 2016 May;130(S2):S32–40.
- 18. Espina C, Herrero R, Sankaranarayanan R, Krug E, Wild CP, Schüz J. Toward the World Code Against Cancer. J Glob Oncol. 2018 Sep;4:1–8.