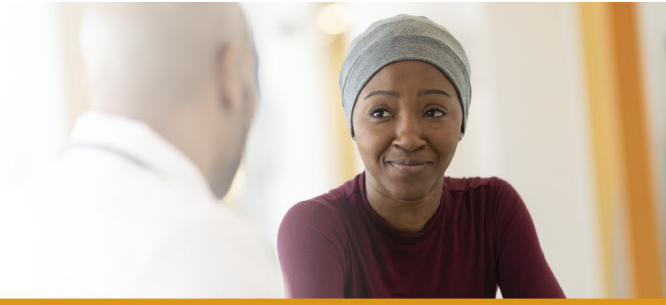
Medical Nutrition International Industry

Better care through Better nutrition



MNI Position Paper

Improving Cancer Outcomes
The Value of Medical Nutrition during Cancer Treatment

1. Malnutrition is prevalent among cancer patients, leading to complications, poorer quality of life, and increasing costs to healthcare systems

Patients with cancer are more likely to develop malnutrition; level of risk is dependent on cancer type, stage or the patients' age. It has been reported up to 70% of cancer patients can become malnourished[1]. Patients with gastro-intestinal cancers[2,3], at more advanced cancer stages or older patients are more likely to develop malnutrition due to the disease.[4]

Malnutrition can lead to poorer health outcomes including numerous complications, such as organ damage, immune system dysfunction, muscle loss and reduction in Quality of life (QoL). Malnourished cancer patients are more likely to develop infections and post-operative complications, which can lead to a reduced tolerability of their chemotherapy/radiotherapy treatment and impact on their overall survival[5,6]. Several studies highlight that poor nutritional status during treatment increases risk of mortality. Data from four studies show that up to 23% of patients with advanced cancer die as a result of progressive malnutrition, rather than as a result of the tumour[7,8,9,10].

In a study of Spanish cancer patients admitted to hospital, poor nutritional status was associated with an increased risk of mortality regardless of disease stage and the patient's age[11].

In addition to poorer health outcomes and QoL, malnutrition in cancer patients is associated with increased costs for the healthcare systems, resulting from longer hospital stays and higher hospital resources consumption (e.g. more nursing time) for these patients compared with cancer patients with a good nutritional status. Studies have shown that cancer patients who are malnourished or at risk of malnutrition stay longer in hospital[12].

A French study revealed that malnourished cancer patients stayed in hospital on average 6 days longer than others[13].

Furthermore, cancer patients with cachexia – a complication caused by malnutrition – are more likely to require unplanned hospitalisations.[14] Malnourished patients are also more likely to require more time investment from nurses, physiotherapists and social workers[15]. Overall, the cost of not treating malnutrition in cancer costs is estimated at €17 billion/year in the EU[16].

1 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;36(5):1187-96.
2 Jarvinen T, Ilonen I, Kauppi J, Salo J, Rasanen J. Loss of skeletal muscle mass during neoadjuvant treatments correlates with worse prognosis in esophageal cancer: a retrospective cohort study. World J Surg Oncol. 2018;16(1):27.
3 Loosen SH, Schulze-Hagen M, Bruners P, Tacke F, Trautwein C, Kuhl C, et al. Sarcopenia is a negative prognostic factor in patients undergoing transarterial chemoembolization (TACE) for hepatic malignancies. Cancers. 2019;11(10):1503.
4 Value of Medical Nutrition in Oncology - Evidence Dossier 2020, Table 1: Prevalence of malnutrition in adult patients with cancer; pag. 15
5 Beecher SM, O'Leary DP, McLaughlin R, Kerin MJ. The impact of surgical complications on cancer recurrence rates: A literature review. Oncol Res Treat. 2018;41(7-8):478-82.
6 McSorley ST, Horgan PG, McMillan DC. The impact of the type and severity of postoperative complications on long-term outcomes following surgery for colorectal cancer: A systematic review and meta-analysis. Crit Rev Oncol Hematol. 2016;97:168-77
7 Warren S; . The immediate causes of death in cancer. Am J Med Sci 1932;184:610–5.doi:10.1097/00000441-193211000-00002CrossRefWeb of ScienceGoogle Scholar
8 Inagaki J, Rodriguez V, Bodey GP; . Proceedings: causes of death in cancer patients. Cancer 1974;33:568–73.doi:10.1002/1097-0142(197402)33:2<568::aid-cncr2820330236> 3
9 Klastersky J, Daneau D, Verhest A; . Causes of death in patients with cancer. Eur J Cancer 1972;8:149–54.doi:10.1016/0014-2964(72)90036-9pmid:http://www.ncbi.nlm.nih.gov/pubmed/5073289PubMedGoogle Scholar
10 Ambrus JL, Ambrus CM, Mink IB, et al; . Causes of death in cancer patients. J Med 1975;6:61–4.pmid:http://www.ncbi.nlm.nih.gov/pubmed/1056415
11 Lopez-Gomez JJ, Cerezo-Martin JM, Torres-Torres B, Gomez-Hoyos E, Ortola-Buigues A, Delgado-Garcia E, et al. Nutritional status and related complications in hospitalized oncological patient. Clinical Nutrition. 2019;38(Supplement 1):S123.
12 Value of Medical Nutrition in Oncology - Evidence Dossier 2020, Table 2: Prevalence of malnutrition in adult patients with cancer, across care settings; pag. 17
13 Pressoir M, Desné S, Berchery D, Rossignol G, Poiree B, Meslier M, et al. Prevalence, risk factors and clinical implications of malnutrition in French Comprehensive Cancer Centres. Br J Cancer. 2010;102(6):966-71.
14 Willemsen ACH, Hoeben A, Lalisang RI, Van Helvoort A, Baijens LWJ, Wesseling FWR, et al. Disease-and treatment induced cachexia in locally advanced head and neck squamous cell carcinoma. Radiotherapy and Oncology. 2019;132(Supplement 1):38-9.
15 Ferrer E, Boulahssass R, Gonfrier S, Champigny N, Michel E, Francois E, et al. Guided geriatric interventions (GI) and nutritional status: A study from the PACA EST French cohort. Journal of Geriatric Oncology. 2019;10(6 Supplement 1):S96-S7.
16 Freijer K et al. The economic costs of disease related malnutrition. Clinical Nutrition 2013; 32, 1: 136 – 141 link

2. Nutritional care should be an integral part of cancer care across Europe

Cancer related malnutrition affects patients and adds burden to healthcare systems, yet it is not sufficiently addressed.

Cancer treatment typically targets cancerous cells and tumours, while cancer related symptoms and complications are not routinely addressed and integrated in the care pathway, despite their significant impact on patients' outcomes[17].

Malnutrition is a common complication that patients can experience during the disease and it is often under-diagnosed and under-treated[18]. Almost 50% of patients with gastrointestinal cancers, over 45% of patients with head and neck cancers, and over 40% of patients with lung cancer are malnourished.[19]

Despite this, the majority of cancer patients are not screened for nutritional status, nor receive information on nutritional support (including clinical nutrition) or cachexia[20] from their health professionals.

A recent World Health Organization (WHO) report[21] notes that appropriate nutritional care helps cancer patients cope better with their illness and treatment. Where patients are unable to sufficiently feed themselves, medical nutrition helps sustain patients during treatment, leading to better outcomes[22], including improved tolerance to cancer treatments[23,24]. Furthermore, patients receiving nutritional care have improved survival.

A Dutch study showed that cancer patients receiving nutritional interventions survived almost 6 months longer than patients who did not[25].

Therefore, it is crucial that the Europe's Beating Cancer Plan takes a comprehensive and integrated approach to cancer care, including supportive care measures to tackle cancer related complications, including malnutrition. An integrated approach would ensure better health outcomes and improved QoL for all European cancer patients, while reducing the overall burden on the healthcare systems.

3. MNI calls to improve cancer care through medical nutrition in Europe

In a European healthcare environment that focuses on cancer care, patient-centeredness as well as cost efficiency, screening for cancer related malnutrition and appropriate nutritional care should become a standard. The value of nutritional care in cancer needs to be understood by all the stakeholders, including patients, policy-makers, payers and healthcare providers.

To improve the outcomes and QoL of cancer patients we need to take action now to ensure that nutritional care is considered a core part of cancer treatment pathways. MNI calls for a transformation of current oncology care models as in the following recommendations:

[17] Feinstein A. The pre-therapeutic classification of co-morbidity in chronic disease. J Chronic Dis. 1970;23:455-469.
Torres V. B. L. et al. Outcomes in Critically Ill Patients with Cancer-Related Complications. PLoS One. 2016; 11(10): e0164537.
[18] Caccialanza R, Goldwasser F, Marschal O, Ottery F, Schiefke I, Tilleul P, et al. Unmet needs in clinical nutrition in oncology: a multinational analysis of real-world evidence. Ther Adv Med Oncol. 2020;12:1758835919899852.
[19] Hofmarcher, T., Brådvik, G., Svedman, C., Lindgren, P., Jönsson, B., Wilking, N. (2019) Comparator Report on Cancer in Europe 2019 – Disease Burden, Costs and Access to Medicines. IHE Report 2019:7. IHE: Lund, Sweden
[20] Cachexia refers to disease induced muscle wasting syndrome and extreme weight loss
[21] WHO report on cancer: setting priorities, investing wisely and providing care for all, 2020, p.96; link
[22] Value of Medical Nutrition in Oncology - Evidence Dossier 2020, Section 4.1.1, Medical nutrition is associated with improved clinical outcomes in patients with cancer and malnutrition, p. 39-41
[23] Manfredelli S, Delhorme JB, Venkatasamy A, Gaiddon C, Brigand C, Rohr S, et al. Could a feeding jejunostomy be integrated into a standardized preoperative management of oeso-gastric junction adenocarcinoma? Annals of Surgical Oncology. 2017;24(11):3324-30.
[24] Guerra EM, Cortes-Salgado A, Mateo-Lobo R, Nattero L, Riveiro J, Vega-Pinero B, et al. Role of parenteral nutrition in oncologic patients with intestinal occlusion and peritoneal carcinomatosis. Nutr Hosp. 2015;32(3):1222-7.
[25] van der Werf A, Langius JAE, Beeker A, ten Tije AJ, Vulink AJ, Haringhuizen A, et al. The effect of nutritional counseling on muscle mass and treatment outcome in patients with metastatic colorectal cancer undergoing chemotherapy: A randomized controlled trial. Clinical Nutrition. 2020((de van der Schueren) Department of Nutrition and Health, Faculty of Health and Social Studies, HAN University of Applied Sciences, P.O. Box 6960, Nijmegen, GL 6503, Netherlands).

MNI Recommendations:

- **Healthcare professionals, patient advocates and cancer patients should be better informed and educated on malnutrition & nutritional care during cancer treatment.** By integrating modules on medical nutrition in the training of healthcare professionals, education & awareness around nutritional interventions will increase the survival chances, reduce hospital stays and provide cost-savings to the healthcare budgets. MNI believes that the EU, through the EU4Health Programme, should provide funding for the development of up-to-date educational modules for healthcare professionals. In addition, projects improving patients' health literacy focused on nutritional status awareness during disease are needed.

- **Therapeutic approaches should be delivered by a multidisciplinary team, including a dietitian or a nutritionist.** The care for cancer patients is complex and needs expertise from several disciplines. The close collaboration of physicians, nurses, dietitians, pharmacists, and other healthcare professionals is crucial in the management of cancer patients. This will allow timely diagnosis of cancer related malnutrition and initiation of tailored nutritional care to improve patients' nutritional status, their QoL and reduce the risks of complications. While it represents the cornerstone of an integrated patient care, this is not the reality of care delivery in the EU today.

- **Malnutrition screening should be mandatory at diagnosis and monitored throughout the treatment**. The nutritional status of patients should be monitored during treatment, to ensure patients are not malnourished throughout their treatment journey. Patients with a normal body mass index (BMI) or a healthy weight history should not be excluded from this screening, because all patients can be at risk of malnutrition. To date, only Scotland and the Netherlands have established mandatory screening for malnutrition in cancer patients.

- **Existing clinical guidelines on nutritional care for cancer patients should be implemented in routine treatment protocols**, including timely use of medical nutrition. Existing guidelines such as the ESPEN guidelines, should become commonplace in the education and clinical practice for healthcare providers. Currently Italy is the only European country with comprehensive national guidelines in place[26]. On a local level, the Italian region 'Campania' created the first regional therapeutic pathway (PDTA) dedicated to nutrition in oncology, which is expected to reduce complications caused by malnutrition by implementing the Italian national guidelines[27]. This best practice can be used as an example for replication in other member states, but it is also vital to develop uniform European standards for nutritional care in oncology.

- **Patients should have equal access to medical nutrition.** Access to nutritional interventions in either the inpatient, but particularly in outpatient settings, is unequal across Europe due to the current cancer care management. Nutritional interventions should be foreseen in National Cancer Plans and should be reimbursed by national healthcare systems.

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About MNI

The Medical Nutrition International Industry (MNI) is the voice of the medical nutrition industry at international level. MNI gathers companies that offer specialised nutritional solutions and services designed to meet the diverse nutritional needs of patients. We strive to put nutrition at the heart of patient care and we aim at an environment that provides fair access to nutritional care throughout the world. MNI is dedicated to advancing better care through better nutrition, across all ages and healthcare settings.

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[26] Italian Ministry of Health, 2017
[27] Campania, Italia