Stressful occupations (e.g., military, police, firefighters, doctors, nurses, social workers, airline pilots, etc.), are at the frontline of public safety, security, health, and overall wellbeing. Their jobs are physically and mentally demanding and highly stressful, all of which are well known to affect the endocrine system. In the long term, these factors affect their health and performance, ultimately impacting their job effectiveness and quality of life.

Insufficient aerobic physical activity (i.e., below the recommended minimum of 150 moderate min/week) and obesity are recognized factors that interact with physical demands, mental health, and stress of variety of occupations, especially of those recognized as highly stressful. In addition, insufficient strength training and low skeletal muscle mass lower the movement potential and increase the risk of sarcopenia, thereby reducing ones ability to perform and quality of life. They have compounding negative effects on occupational performance and health of working population in these occupations. On the other hand, sufficient physical activity and healthy body composition (i.e., low body fat percentage and sufficient muscle mass) mitigate these negative effects. Moreover, physical activity and exercise improve endocrine responses, which are a pre-condition for sustainable health outcomes.

To that end, this special collection focuses on mechanisms and endocrine system effects from physical activity behaviors, obesity, and stress on the health and performance of stressful occupations. We aim to have frontline research from around the world that would provide answers to inform clinical practice, field specialists, agency leaders, policy makers, and future research endeavors.

Our goal is to attract the research that provides the insights into mechanisms of occupational and behavioral influence on endocrine system and health of people performing physically demanding and stressful jobs. An additional goal is to provide guidelines and tools for facilitating healthy human-oriented working environments within these stressful occupations.

This research topic welcomes original research, perspectives, opinions, mini-reviews, and review articles on the elements described above. Manuscript themes may include but are not limited to the following:

• Endocrine system, health, and/or performance effects of occupational and clinical interventions.
• Epidemiological investigations.
• Socio-cultural influences at multiple levels (e.g., individual, organizational, policy).
• Innovative approaches to measure endocrine system effects from physical activity behaviors, obesity, and or stress.

At the 2022 ESPEN conference, the International Declaration on the Human Right to Nutritional Care was presented, stating the ethical obligation to ensure optimal nutritional care. Still, in our aging populations, patients often present with a range of chronic conditions that, in combination with poor lifestyle choices and other factors such as polypharmacy, affect their nutritional status. Often hidden behind adipose tissue, their muscle mass is decreased, and intakes of essential nutrients are low, while inflammatory levels are chronically increased.

Consequently, patients often enter the hospital malnourished, they continue to lose muscle

mass during the stay, and they fail to recover it after discharge. Decrease in food intake due to factors such as lack of exercise, stress caused by the hospital stay and metabolic changes as a result of their medical condition, surgery, or drugs, further aggravates the micronutrient deficiencies. All of this affects their clinical prognosis and the increase in frailty puts them at risk of further health problems, leading to a vicious cycle of malnutrition, ill health, and frailty.

As such, the aim of this Research Topic is to highlight the effect of nutritional therapies on patients' clinical prognosis and quality of life, as well as the cost for society. Potential solutions to improve nutritional interventions along the continuum of care will be discussed and substantiated with data from clinical trials. Effectiveness of nutritional interventions post-discharge, in institutions and in the community are encouraged, to demonstrate the beneficial effect for patients. Data on cost-effectiveness will also help to highlight the beneficial effect of nutritional interventions (for example, oral nutritional supplements) on healthcare cost. In addition, as the Vienna declaration discusses patient empowerment as a critical factor to ensure improved nutritional care, practical examples of how this can be achieved will also be presented, alongside ethical concerns of failing to incorporate nutritional care into our medical practice.

This Research Topic will therefore serve as a call for action to discuss and address gaps in our understanding of these problems, and for implementation of initiatives to optimize nutritional therapies along the continuum of care. Evidence for programs on nutritional interventions, education, and other relevant initiatives for optimal nutritional care along all stages of the patient’s journey will be presented, including data on the prevalence and consequences of malnutrition in patients. As a multidisciplinary approach is essential, we will bring together experts from different specialties along the continuum of care to present promising approaches in their respective fields, helping to make the Vienna declaration on the human right to nutritional care a reality for patients.

We welcome submissions including but not limited to the following:
• Observational data on the prevalence of malnutrition and its consequences for patient prognosis (e.g., mortality, morbidity, length of stay, readmission, quality of life);
• Original data from nutritional intervention trials with specialized products (e.g., dietary supplements, oral nutritional supplements tube feed, parenteral nutrition), specific foods or fortified foods (or a mix between the different types), on nutritional status, clinical outcomes, and other relevant parameters from hospitals, post-discharge in institutions or the community;
• Health economic data on the impact of malnutrition and/or nutritional interventions on healthcare cost;
• Examples for initiatives on patient empowerment to improve nutritional care, and discussion on their application in clinical practice.

Original research (observational studies and clinical trials), meta-analysis and systematic reviews, and policy and practice reviews are welcomed, as are opinion papers on ethical considerations and the role of the Vienna declaration