# Balancing plant-based protein intake and clinical nutritional needs

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**Description of the initiative**
Adequate protein intake is essential for preserving muscle mass, supporting wound healing, and maintaining immune function. The transition to a more plant-based diet, while beneficial for health and environmental sustainability, still faces concerns in clinical settings. Plant-based proteins often have lower digestibility and less favourable amino acid profiles compared to animal proteins, which is especially critical for hospitalized or rehabilitation patients at risk of malnutrition.
The Nutrition and Healthcare Alliance (NHA), the Dutch Malnutrition Center of Expertise (DMCE) and the NHA national network on hospital food (all Dutch hospitals) named 'A Taste of Excellent Healthcare (TEH)' have generated a comprehensive knowledge base, including tools, materials, and strategies to promote sustainable and high-protein dietary choices among patients. However, the challenge remains to translate these insights into measurable dietary changes at the patient level.

**Our objective** is to implement and evaluate practical interventions that facilitate a medically responsible protein transition in hospitals and rehabilitation centres, ensuring patients meet their protein and amino acid requirements while increasing the proportion of plant-based proteins.

**Planned Activities & Deliverables**
**Phase 1:** Needs Assessment (Months 1–6)
- Conduct surveys and focus-groups with dietitians, patients, and clinical teams to identify knowledge gaps, tool usability, and patient acceptance of plant-based protein options (based on RE-AIM framework).

**Phase 2:** Implementation & Pilot Testing (Months 7–14)
- Introduce more plant-based, protein-rich and protein balanced meal options and enhanced educational materials for staff and patients.
- Monitor protein intake (via 24h recalls), amino acid adequacy (using Alpha tool from Wageningen University and Research (WUR)), and patient adherence (via brief questionnaires).
- Evaluate effectiveness, satisfaction, and operational feasibility, including collaboration with suppliers and waste reduction strategies.

**Phase 3:** Dissemination, Knowledge Transfer & Scaling (Months 15–18)
- Develop implementation guides, factsheets, and e-learning modules for wider adoption.
- Organize workshops and webinars via NHA, DMCE, and national network TEH.
- Connect with malnutrition awareness week.
- Make all tools and results freely accessible online for national and international stakeholders.

**Resources & enablers**
Total budget: €40,000 incl. VAT: €30,000 for project management, data collection, and staff costs; €3,000 for tool adaptation (Alpha Tool, https://alpha-tool.eu/, an online tool developed by WUR to calculate the amino acid composition and the meal protein quality score of a meal) and recipe analysis;
€7,000 for dissemination, network events, and materials production. Currently, no other funding is planned or secured for this project.

**Key enablers:** Access to existing hospital dietitian networks and national network on hospital nutrition TEH, ample experience from NHA and DMCE projects, using scientific based framework for research, evaluation and implementation (RE-AIM), and close collaboration with Alpha Tool developers.

**Results, expected outcomes & impact**
- **Practical outcomes:** Evidence-based tools and interventions to support dietitians in implementing plant-forward, high-protein diets tailored to patient needs.
- **Patient impact:** Increased intake of high-quality proteins, improved satisfaction, and safe adoption of predominantly plant-based meals without compromising amino acid adequacy.
- **Operational impact:** Improved collaboration between care teams and suppliers, reduced food waste, and increased staff competency in sustainable nutrition practices.
- **Scientific impact:** Integration of patient-centred outcomes into the knowledge base on the protein transition, informing future research, guidelines, and clinical nutrition practice.

This project positions the Netherlands as a global frontrunner in implementing a medically responsible protein transition in healthcare. Insights and materials can be adapted to other vulnerable populations, including older adults and long-term care residents, and provide a model for international adoption.

X **Please tick to confirm the PEN letter of endorsement is attached. Incomplete submissions will not be considered.**