Malnutrition in patients with overweight or obesity - from early recognition to improved treatment

Project Team: Barbara van der Meij, Jos Borkent, Emmelyne Vasse, Marian de van der Schueren (HAN University of Applied Sciences), Maarten Soeters (AmsterdamUMC), Patty Lakenman, Manon de Geus (ErasmusMC), Karen Ottens (Hospital Gelderse Vallei), Menrike Menkveld (Dutch Malnutrition Center of Expertise) – the Netherlands
Contact: Barbara van der Meij +31 6 21604974, barbara.vandermeij@han.nl

1. Background/context

- **Over 60% of** hospitalized patients in the Netherlands are overweight or obese[1], yet **malnutrition in this group** is frequently overlooked[2].
- **Malnutrition** in individuals with overweight or obesity **is associated with poor clinical outcomes,** underscoring the need for early recognition and tailored nutrition care[3].
- A dedicated screening approach is essential to accurately **identify risk and guide appropriate treatment**.

2. Rationale for this initiative

The SCOOP* consortium has recently developed **a tool for the identification of (risk of) malnutrition in patients with overweight or obesity**[4]

Its **clinical relevance** (improved identification and **treatment**, predictive validity) needs to be established

***SCOOP: SC**reening for malnutrition and **O**verweight and **O**besity in **P**atients with COVID and other diseases*

3. Objectives & scope

The main objective is **to test the impact of the SCOOP malnutrition tool** on the **recognition and treatment** of **malnutrition** in hospitalised patients with overweight or obesity.

Secondary objectives:
- To **cross validate** the tool in hospital settings.
- To **compare the tool with existing malnutrition screening tools** in identifying **patients at risk**.
- To develop an **online screening tool** to facilitate implementation in clinical practice.
- To propose a **nutrition care pathway** for patients with overweight or obesity.

The study will take place in 3 Dutch hospitals.

4. Planned activities

Key steps of project management plan

Initiation phase (months 0-3)
Protocol, data management & analysis plan, ethics submission

Preparation phase (months 1-3)
Pilot testing, recruitment strategy, build data capture system

Execution phase (months 4-14)
- Enrollment of n=180 adult hospitalised patients (BMI≥25 kg/m²)
- Assessments:
  - ◊ Malnutrition screening (SCOOP + existing tool)
  - ◊ Muscle mass (bio-impedance analysis)
  - ◊ Length of stay (medical record)
  - ◊ Discharge destination (medical record)

Close-out phase (months 15-18)
- Data management and analyses
- Build online screening tool*
- Propose nutrition care pathway (e.g. protein/energy requirements, diet quality, muscle mass assessment)*
- Dissemination*

*Together with relevant stakeholders and end users

- **Cross-validation** in n=180 patients;
- This represents ~30% of the original n=600-validation cohort, **a standard proportion for reliable evaluation**.

5. Deliverables

- **Validated SCOOP malnutrition screening tool** (sensitivity, specificity, positive + negative predictive value)
- **Comparison of malnutrition prevalence** between new tool and existing tools
- **Online screening tool** (available in English and Dutch)
- **Evidence-based nutrition care pathway**
- **Dissemination** of findings to stakeholders, healthcare institutes, (inter)national research community

6. Resources & Enablers

- Established **infrastructure for inclusion** (≥n=20/month) **and data collection**, grounded in the previous SCOOP development phase.
- The budget is aligned with planned activities and ensures feasibility across 3 hospitals.
- HAN researchers will **manage the project**; hospital personnel will coordinate **patient enrollment** and data collection.
- **Costs** include research personnel, reimbursements, support and logistics.

7. How will the grant be spent?

	Amount
Personnel	
0.01 FTE principal investigator HAN	€ 4,756
0.03 FTE postdoc researcher HAN	€ 6,803
0.03 FTE senior researcher HAN	€ 8,741
Hospitals (dietitians, nurses, MDs)	€15,000
Support and logistics	
Materials (e.g. BIA, online tool)	€ 2,700
Travel costs	€ 2,000
Total	**€40,000**

8. What factors will make the project successful?

- **High societal and patient relevance** (increased malnutrition & obesity prevalence).
- **Strong interdisciplinary** team of dietitians, MDs, researchers, implementation scientists at HAN, AmsterdamUMC, Hospital Gelderse Vallei, ErasmusMC and the Dutch Malnutrition Center of Expertise.
- Development of the screening tool was funded by a Dutch Health Research ('**ZonMw**') grant (2023-2025) and a **Nestlé Health Science grant** (2025).
- Ongoing alignment with the **GLIM obesity working group.**
- **Outcomes are transferable** to other geographical regions, e.g. countries with a high prevalence of obesity.

9. Results, expected outcomes & impact – how will findings be implemented?

- **More effective screening, recognition, and nutrition care** in comparison with existing screening tools.
- Implementation in **online screening tool** (available in English and Dutch).
- Press releases, webinars, conference presentations and publications to **enhance awareness and disseminate findings and educate healthcare providers.**
- Successful **collaborations** with hospitals, Dutch Malnutrition Center of Expertise and **ESPEN** will enable further dissemination and implementation.

10. How will this project advance nutritional care in clinical practice?

- **Improved recognition of malnutrition** in patients with overweight or obesity.
- **Enhanced referral and improved access to timely nutrition care** for affected patients.
- **Increased awareness** among healthcare professionals about the unique risk factors of malnutrition in obesity.

References
[1] Jerry et al. PLoS One. 2025;20(9):e0332608
[2] Cristancho et al. Nutr Clin Pract. 2024;39(6):1300-1316
[3] Wathanavasin et al. Nutrients. 2026;18(1):157
[4] https://www.kenniscentrumondervoeding.nl/scoop/

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