

# 7. Nutritional Theory: Organization and Structure

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Nutritional theory is taught at six Swedish universities, as follows:

- *Göteborg University* has a department of clinical nutrition which focuses on clinical practice (see below).
- *Linköping University of Health Care* includes a department of nutrition headed by an associate professor. Its principal focus is on metabolism during pregnancy and nursing.
- *Lund University* has, in addition to a department of clinical nutrition, an institute of industrial nutrition and food chemistry with a professor and several associate professors.
- *Stockholm University's* affiliate at Huddinge Regional Hospital includes a department of medical nutrition, headed by a professor, which conducts extensive preclinical research with an emphasis on nutrition-related biochemistry and molecular biology. The affiliate, called *Novum*, also has a section for the theory of preventive nutrition which is primarily concerned with community nutrition.
- *Umeå University* has a section for nutrition research headed by an assistant professor, which is primarily concerned with preventive nutrition and biomarkers for epidemiological studies.
- *Uppsala University* has, in addition to the assistant professorship noted below, a department of nutrition headed by a professor. Areas of special interest include sports physiology, metabolism, and nutrition in underdeveloped countries.

## Current organization of the subject “clinical nutrition”

Clinical nutrition has been a medical speciality in Sweden since 1992. It is referred to unofficially as a “secondary speciality” whose practitioners require a primary speciality within a broader clinical area such as internal medicine, geriatrics, general medicine, surgery, anaesthesiology, intensive

care, clinical chemistry, paediatrics, etc. A guide to special training in clinical nutrition (“Utbildningsbok”) was published in 1999 and can be ordered from the Swedish Medical Society, or downloaded from the Internet web site, [www.sls.se](http://www.sls.se).

Only the universities of Göteborg and Lund have special departments for clinical nutrition. At Göteborg there is a position for a professor/chief physician and for several associate professors, including one chief physician; altogether there are places for three physicians. At Lund there are 1.5 positions for physicians, including one chief physician; there are no university positions. In Malmö, there is a position for an associate professor/chief physician specializing in geriatric nutrition at the Geriatric Development Centre of Malmö General Hospital. In Uppsala there is a chief physician/assistant professor in clinical nutrition associated with the metabolism unit at the geriatric clinic of Samariterhemmet Hospital. In Stockholm there is a nutrition unit at the geriatric clinic of the north-west health-care district. There are no clinical units of any kind in Linköping and Umeå.

In Sweden as a whole, there are some five positions for physicians in clinical nutrition and nine medical specialists in clinical nutrition. In addition, there are a number of physicians with various other specialities who are also involved in research and development within the area of clinical nutrition. For the past thirty years, they have been at the leading edge of basic and clinical research on nutrition. Their research has thus far concentrated primarily on the area of surgery, where clinical applications have improved the results of surgical procedures.

The small number of positions for physicians and the lack of hospital beds of one’s own contrast sharply with the extent of nutritional problems in health care (see Part II, Chapter 3: “Incidence of Malnutrition”). As a result, nutrition clinics have developed ad hoc, leading to division into nutrition teams, dysphagia teams, PEG teams, dietician units, diet sections, etc. The consequence has been that, for the most part, there are no entities which can provide second opinions in cases of severe nutritional problems, or assume responsibility for research and development in the area of clinical nutrition.

Interest in nutritional issues has increased in recent years, which is reflected in the diversity of educational activities within various parts of the health-care system. However, due to the present organizational structure described above, the effects of various personnel-training initiatives are often transitory. Theoretical knowledge is a necessary, but not sufficient, precondition for positive effects. There also has to be a clinical structure within which such knowledge can be applied.

## Development of clinical nutrition

It has been argued here that the scientific basis for the treatment of malnutrition related to various types of illness is not adequate at present. It is therefore very urgent to encourage treatment-oriented research on nutrition, in order to improve the knowledge base for the treatment (including prevention) of various types and degrees of malnutrition associated with specific illnesses and combinations of illnesses.

One way to improve the situation would be to establish clinical nutrition units at university hospitals, preferably linked to individual clinics with large numbers of patients, and with an interest in and suitable conditions for developing the organization. Such units should be staffed with physicians, nurses and dieticians in adequate numbers, and should also be able to offer postgraduate education at various levels.

There should be a clear description of the organization and its purpose, including its functions with regard to:

- *Clinical health care* (consulting, and in- vs. outpatient care). Evidence-based treatment of existing malnutrition, together with other clinical problems. Development of (a) a system of risk-markers to identify patients with high risk of malnutrition, and (b) administrative routines.
- *Research and development*. Development of criteria for diagnosing malnutrition. Randomized, controlled longitudinal studies (preferably including placebos) on the effects of nutritional treatment for existing malnutrition. In addition to standard nutritional markers, the evaluation should include clinically relevant end-points such as functional capacity, health-related quality of life, morbidity and mortality.
- *Education* in clinical nutrition for medical students, dieticians, nutritionists, nurses, dentists and other professions.

The situation of clinical nutrition has many similarities with that of the speciality, pain mitigation. A 1994 report of the Swedish National Board of Health and Welfare offers suggestions, regarding organization and the management of malnutrition, which can also be applied within the area of clinical nutrition (see chapter entitled “*Förslag och rekommendationer*” in the report, *Behandling av långvarig smärta*. Socialstyrelsen 1994:4).

In conclusion, it may be observed that developing the structure and organization of the subject, clinical nutrition in health care, would facilitate important clinical research projects in this area. The greatest need is for randomized, controlled studies of treatment which focus on clinically relevant measures of treatment effects.