



NEDERLANDSE FEDERATIE VAN
UNIVERSITAIR MEDISCHE CENTRA

University Medical Centres in the Netherlands



AMC



UMC Utrecht

University Medical Centres

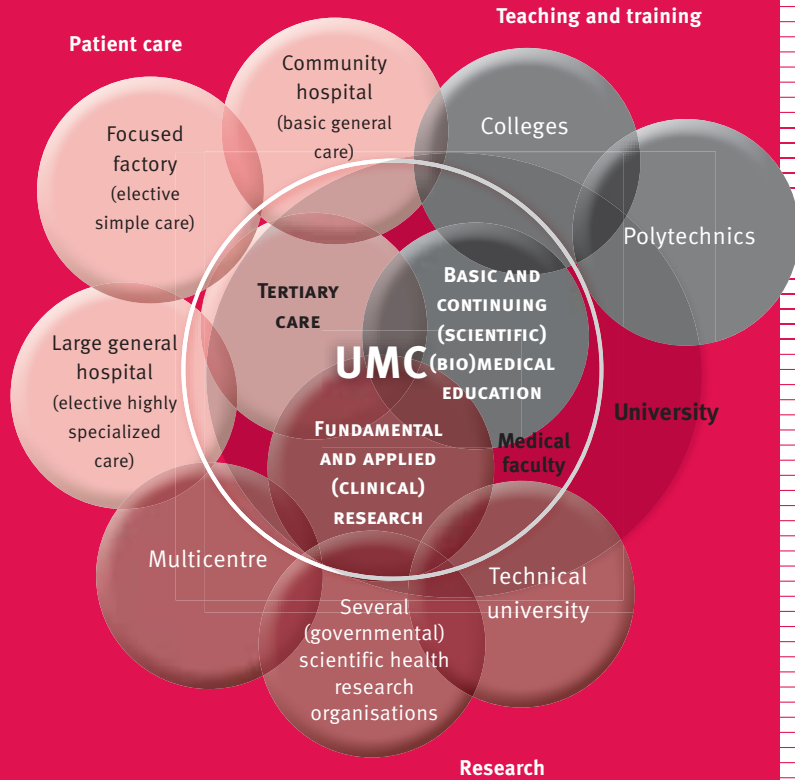
University Medical Centres and the Health System Reform in the Netherlands: a Position Paper

In the last ten years eight University Medical Centres (UMC's) were created in the Netherlands. In a UMC the Faculty of Medicine, with its responsibility for the initial training of physicians and for scientific research, is merged with the Academic Hospital, with its responsibility for tertiary care and clinical research and innovation. All medical faculties and academic hospitals in the Netherlands are now a UMC.

Each UMC is a private non-profit enterprise with strong links to the University and with an executive board including a dean of medicine. The finances come from the Department of Education and Science, the Department of Health as well as from the health insurance companies that operate the mandatory health insurance in the country. The eight UMC's have a special position in the health care system, because although they are legally private entities, they have a distinct public mission. This mission can be divided into three core responsibilities: teaching and training, basic and clinical research and (tertiary) patientcare.

The Dutch UMC's have positioned themselves on the intersection of medical education, (bio)medical research and patient care. Recently the Minister of Education and Science and the Minister of Health have informed parliament how this unique

Integration of core functions



position affects the way UMC's fulfil their public functions in the new more market oriented health care system. In this publication we give a summary of that Position Paper as well as the facts and figures of the eight Dutch UMC's.

Bridging the gap between three worlds

The added value of UMC's is that they integrate three core functions, patient care, (bio)medical research and (bio)medical education. Medical students are exposed to patients as well as basic research from day one of their curriculum and they become part of the UMC community. Many of them will participate in research projects during their studies and many will opt for a MD/PhD programme. Almost every doctor and nurse is involved in the teaching process. And as students enter their clinical rotations they will be an important driver for quality of care as their supervision requires doctors and nurses to provide a good role model. Increasingly the modern curriculum will include a mix of clinical and basic science around a specific disease, and therefore both clinicians and scientists often lecture together.

As the science labs are often located within the same building as the hospital, interaction between clinicians and scientists is frequent, but also many doctors continue to work in a lab as well. Good clinical epidemiology in most UMC's has supported many clinical researchers (doctors and nurses) and the close vicinity of patients has proven to be of immense importance in the recent developments in the area of genomics, proteomics and other fields of translational medicine. This is visible in the position of Dutch (bio) medical research in the international scientific community.

Increasingly results of research are taken further, either as direct innovations in patient care, after thorough evaluation studies or through patents, spin out companies or other forms of "valorisation" of science. Innovation in clinical therapeutics or diagnostics have always been important in academic hospitals. Increasingly UMC's are also responsible for innovations in the process of care delivery, not only in the hospital setting but also, through for instance their departments of Family Practice in primary care or nursing home care. Innovations can be thoroughly evaluated before becoming standard practice and their value in improving outcomes for patients or in reducing costs can be critically assessed. In that way the whole health care system profits from academic medicine.

Finally UMC's have an important responsibility in tertiary care. Patients with rare diseases, difficult to manage complications or in need of very complex interventions are often referred to a UMC. Transplantations, neonatal intensive care, genetic diseases, rare metabolic disorders and complex cancers are examples of patient groups that are concentrated in some or all UMC's so that sufficient volume guarantees expertise. However, despite the unique responsibility for tertiary care, all of the UMC's provide a certain amount of regular hospital care, if only for training purposes. For those patient services the UMC's compete in the health care market just as general hospitals do.

Teaching and training

Since 1992 the Netherlands have increased the number of first year medical students from 1485 to 2850 a year. Each UMC has an average between 315 to 410 new first year students. After a six year training, of which two years on average are spent in clinical rotations (50% in a UMC and 50% in another health care institution) physicians can enter specialty training. UMC's offer all specialties including family practice and public health, but during most specialty training the physician will spend approximately 50% of his training in a general hospital. Around 60% of the Dutch hospitals participate in specialty training in regional networks around each UMC. The UMC plays an important role in providing courses and skills labs for students and teachers.

All UMC's also have at least one degree programme in biomedical sciences (around 500 student a year) and all participate actively in the training of nurses and nurse specialists.

Clinical research and basic science

The UMC's together are responsible for a third of the scientific output in the Netherlands in terms of publications and on average they have a citation score of 1.33, with variations by field in the different UMC's. Together the UMC's award 800 doctoral degrees a year, which means that on average each UMC has 400 PhD students.

UMC's have both clinical and basic science research groups. Increasingly the combination of the two creates powerful groups specialised in translational medicine. Although UMC's have a certain amount of funding for research through the medical faculty, most get a much larger amount of funding from the research councils at the national or international level, from charities and from projects together with industry. Both other faculties of the university and biotech companies collaborate with UMC's in solving biomedical mechanisms, developing new methods for diagnostics or therapeutic interventions and evaluating the results in clinical trials.

Each UMC has a research infrastructure and in certain cases close collaboration of the UMC's provides a unique scientific environment. An example of this is the Pearl String Initiative (PSI) in which the eight UMC's are jointly building prospective patient cohorts for which both clinical data and bio materials are collected in a standardised fashion. For some diagnoses this means that all patients with that diagnosis in the Dutch population are included in one database. This PSI biobank will provide unique material for research on the interaction between genotype and phenotype.

Together the UMC's have taken responsibility for technology assessment studies, partly financed through the Medical Research Council, ZON-MW. Outcomes of such studies have been

instrumental in deciding which new treatments are included in the basic benefit package and in disseminating innovation to other hospitals. Many of the researchers in the UMC's are involved in advisory bodies to the government, such as the National Health Council.

Special hospitals for special patients

Although all UMC's provide basic hospital services, their public function is primarily determined by the top clinical services they provide together with their last resort function for referrals from other hospitals. Such tertiary care should build on the knowledge infrastructure that the UMC provides, with clinical research, innovation, a multidisciplinary approach and it provides continuity of expertise, 24 hours a day 7 days a week. Such continuity is important for patients but also to preserve centres of excellence over time so that tertiary care is not only dependant on one person.

Increasingly as the market for care evolves, some more complex or more costly patients will be referred to a UMC. That is why the financing of UMC's requires special measures; otherwise academic medicine would be in danger.

UMC Budget



“Part of the health care market where possible, separately financed when necessary.”

It is with this credo that the then Minister of Health Hans Hoogervorst explained to parliament why the UMC’s needed a special position in his reforms of the Dutch health care system. As he transformed the Health Insurance System to achieve universal coverage with risk and income solidarity, executed by private insurance companies, he introduced a special financing scheme for the UMC’s.

Of course UMC’s are financed in many different ways. Part of their budget comes from the Ministry of Education, Culture and Science, through the Universities, both for the faculty and the academic hospital to provide the infrastructure for teaching and research. A major part of the research money of the UMC’s is secured in the fierce competition for grants at a national or international level. But for their patient care budget a distinction is made between the negotiated budget between the insurer and the UMC for the regular services and the lump sum provided as so called “academic budget” for the excess costs of tertiary care patients. This last budget is strictly limited to UMC’s.



UMCG

Maastricht UMC

A new future for academic medicine

With the creation of UMC's academic medicine in the Netherlands has entered a new phase. Where ICRAM (the international campaign to revitalise academic medicine) worries about the position and the power of academic medicine in the future, the eight UMC's have shown that merging two traditional institutions, a medical faculty and an academic hospital, provides a good environment in which innovation and quality of care can be developed, assessed and passed on to the next generation of doctors and nurses. The three core responsibilities, education, research and patient care, are intertwined and as such can no longer be evaluated in separation. Together they are the essence of academic medicine and the R&D of any health care system.



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