Future Health
Vision of Stockholm County Council[1]

The Evolution Of Medicine And Medical Technology

Medicine and medical technology are evolving rapidly. New methods of diagnosis and treatment are being developed that provide opportunities to treat serious medical conditions in increasingly younger and older patients. Healthcare is becoming more specialised and is demanding ever greater skills and resources, yet can often be provided on an outpatient basis when supported by new, minimally invasive methods. Hospital care with episodes in which treatment and convalescent care are provided has been replaced by care processes that involve multiple care providers.

This trend is creating demands for a new healthcare structure, with new mandates for acute care hospitals and expansion of the community healthcare system, while optimal conditions must be created for research, education and healthcare development.

Development Of A New Care Structure

The future healthcare structure can be illustrated as shown in Figure 1. The content of care is characterised by three perspectives: degree of specialisation, whether care is provided on an inpatient or outpatient basis (with day patient care as an intermediate form), and whether care is provided on an acute or planned basis. Patients with chronic illnesses often go back and forth between planned and acute care interventions. Community healthcare, which is described in the 3S Community Healthcare Study, has a virtual or geographical (local dimension) and describes care that is provided close to the patient. It encompasses all three perspectives, covering both general/family healthcare (generalist care) and specialist care; it may be acute or planned; and it may be provided on an outpatient, inpatient or home health care basis.

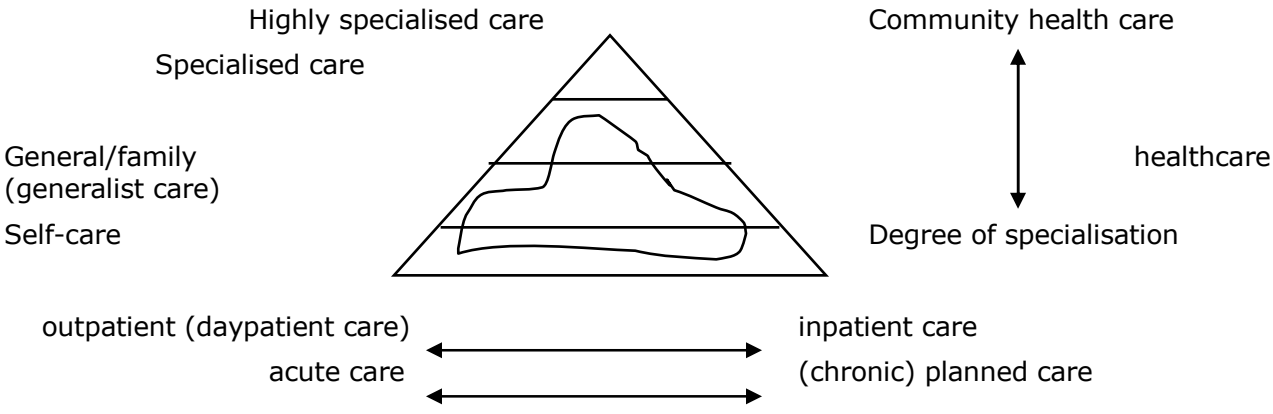

Figure 1: Healthcare perspectives

[1] This paper has been based on the findings and reports of the '3S-Study', Stockholm County Council, 2004.

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As a new health care structure is developed, cooperation between the university hospital, the acute care hospitals and community health care must be improved, and the hospitals be given clearer mandates and identities. In parallel with giving a health care mandate to the university hospital that is meant to support the research mandate, the mandates and roles of the other acute care hospitals must be defined. Education and research must be conducted throughout the health care system. As knowledge transfer and quality tracking take on greater importance, the university hospital's role and responsibility as a centre of knowledge in the healthcare network will become increasingly critical.

Cooperation with community healthcare will take on great significance. The goal is to with maintain (or increase) quality, to build a structure that enables higher cost-effectiveness. It is especially important that patients are managed at the right level of care and that evidence-based healthcare programmes/clinical pathways are followed. As a consequence of the structural change, the need for care and rehabilitation in the home is going to increase. Elderly patients in particular are going to have a substantial need for care after being discharged from hospital. Extensive cooperation among acute care hospitals, community care and local authorities will become more important to successfully creating working care processes.

Several other county councils are engaged in structural development processes that have great similarities with that ongoing in the Stockholm region. The number of acute care hospitals in Sweden declined in the 1990s from 89 to 69 through hospital mergers and through reorganisation of acute care hospitals to 'community hospitals'. As within Stockholm County Council, the goal has been to concentrate specialised acute care in fewer hospitals in order to create a basis for more efficient resource utilisation and higher quality.

Concentration Of Highly Specialised Care

One of the main principles of the Stockholm County Council Vision is that highly specialised care should be concentrated at Karolinska University Hospital.

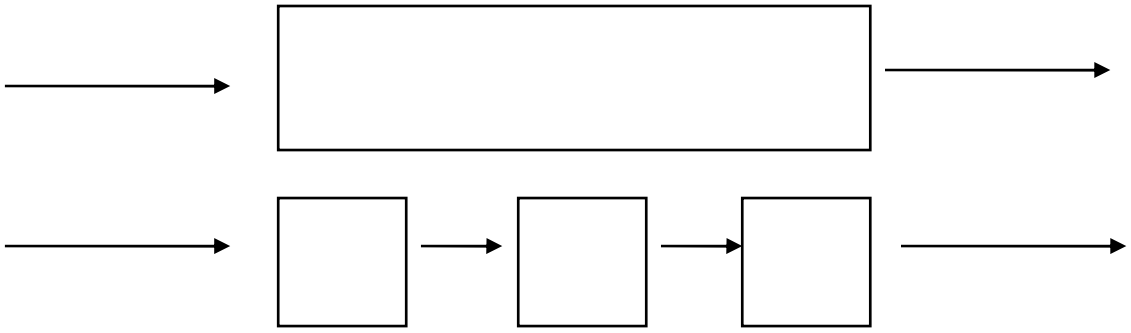
"Highly specialised care" refers to care (diagnosis and/or treatment) that requires special expertise or resources and thus must be concentrated. This may apply to both care that is rarely required, and to treatment of common illnesses. It may refer to an entire speciality (e.g., neurosurgery), a sub-speciality (e.g., oncological gynaecology), a treatment method (e.g., emergency PCI for myocardial infarction; bone marrow transplantation), introduction of a new technique (e.g., minimally invasive surgery), or new drugs (e.g., immunotherapy for rheumatological disorders). Certain medical care is and will remain highly specialised, while other care can be spread to other care providers once diagnosis and treatment methods have been tested and established. One of the hallmarks of highly specialised care is that it is usually multidisciplinary in nature and requires access to sophisticated and costly equipment. As a result, interaction with other highly specialised care is important to enable co-utilisation of skills and resources. Spreading out this type of care among several different hospitals would be inefficient. Instead, highly specialised care is concentrated in 'clusters', both nationally and internationally.

Care Process Development

One clear trend is that the various levels of health care are becoming more tightly interwoven with each other. During a care process, a single patient may be examined, treated and rehabilitated within highly specialised care at the university hospital, specialised care at an acute care hospital, within the community healthcare system and in municipal home health care. Continued integration between different levels of health care and medical specialities is for that reason becoming more important in ensuring that health care can be improved and made more efficient. For this to happen, we must have smooth and effective knowledge transfer and skills enhancement in the health care system. Treatments developed within highly specialised care must be spread and applied within the

acute care and community health care systems. Organisational units that bridge traditional boundaries between specialities and levels of health care must be formed so that the health care system can be built according to the chain of care approach.

Medical safety and resource utilisation could be improved by means of a continuous chain of care – from prevention, diagnosis, treatment and care to follow-up and rehabilitation. Focus is directed at the care processes within a health care area (or speciality) and less towards the organisational unit where the care is provided. Such a concept may lead to a more process-oriented organisation (matrix organisation). Care purchasing is oriented towards care processes rather than individual care providers (Figure 2). To support such a development, the form in which accountability for care processes/care areas is exercised must be defined. The purpose is to design care processes that optimally utilise available resources. This refers to both the allocation of specialised/highly specialised care and community health care to care providers as well as to a purposeful and efficient organisation for providing acute care (including urgent care and emergency lines).



Care episodes are becoming care processes with multiple care providers

Figure 2: A process-oriented organisation

An organisation based on cohesive care processes could provide greater opportunity to cost-effectively allocate resources to health care. This would also facilitate follow-up and quality control of care production because the relationship between allocated resources and results is clarified in the processes. The development towards a more process-oriented organisation should be regarded from a long-term perspective and will happen at varying rates within various segments of the healthcare system.

New Mandates For Acute Care Hospitals

In the healthcare structure of the future, all acute care hospitals will be given new and partially changed mandates. Karolinska University Hospital will be given a health care mandate more clearly related to its research and teaching. The hospital will be developed by creating distinct identities for Karolinska Solna and Karolinska Huddinge. Operations at both units will be coordinated and developed in accordance with proposed structural changes.

As highly specialised care will be concentrated to Karolinska University Hospital, acute basic health care and some specialised care will be transferred at the same time from Karolinska University Hospital to the community health care system. Increasingly, specialised care and highly specialised care are being provided on an outpatient or day patient basis. This reduces the need for inpatient beds while the proportion of outpatient care provided at the university hospital and other acute care hospitals increases. Diagnostic and therapeutic centres are being established at hospitals, but also as separate units.

The greatest changes in patient flow will ensue when acute care provided at Karolinska University Hospital Solna is limited to patients arriving by ambulance (priority 1 and 2), patients already being provided with care or treatment at the hospital, and patients referred to the hospital for specialised and highly specialised care. As a result of the changes, the number of visits to Accident and Emergency will decline from the current 87,000 a year to fewer than 50,000 a year.

As a consequence of the reduced acute care flow, the number of acute care episodes will also decline at Karolinska University Hospital Solna by approximately 7,000 and the bed requirement by 80-100 beds. About half of outpatient visits can be managed within the community healthcare system while the other half will be referred to Södersjukhuset, Danderyd Hospital and St Göran's Hospital. The continued change and identity creation for Karolinska University Hospital Solna will be accomplished gradually. When the project has been fully carried out in 2010, the hospital will have an estimated 500 inpatient beds and comprehensive specialised and highly specialised outpatient and daypatient care.

As care volume declines at Karolinska University Hospital Solna, the three large acute care hospitals in the County of Stockholm will be given an expanded healthcare mandate with higher volumes of acute and planned specialised care. Care volume will remain essentially unchanged at Karolinska University Hospital Huddinge for the next five years. The hospital will retain a larger proportion of specialised acute and planned care compared with Karolinska University Hospital Solna.

About 100 beds will be created in the community health care system in the next five years for elderly and chronically ill patients who currently receive care at acute care hospitals.

Research And Education

Conducting research and education in parallel with the health care mandate is the unique task of the university hospital. The health care mandate of the university hospital must ideally be designed to support research and education. The definition of highly specialised care encompasses the development of new diagnostic methods and new treatment methods for widespread diseases. The basis for conducting research on widespread diseases will be found within the university hospital, which will be allocated 1,200-1,300 inpatient beds and an adequately dimensioned outpatient system to fulfil its mandate in cooperation with other hospitals by means of multicentre studies and network research.

Clinical research and follow-up must take place throughout the health care system, including the municipal level, but to enhance the quality and efficiency of research, it must be concentrated to a small number of units with ample resources. Karolinska Institutet and Karolinska University Hospital will be given substantial responsibility to support such a development. An academic health care system should be created in parallel with the emergence of a new health care system.

One of the primary tasks of the university hospital is to educate physicians. As Karolinska University Hospital will, according to current intentions, be given a health care mandate that will to a greater extent be based on highly specialised and specialised care, the education mandate must be spread to more hospitals as well as the community health care system.

The New University Hospital Building

A new hospital building that replaces Karolinska University Hospital Solna will create the prerequisites for developing an internationally competitive university health care system. The hospital building is being designed and planned to meet the demands of rapid medical and technical development. The connection between preclinical and clinical research and health care is maintained. Cooperation among Karolinska University Hospital Solna, KI, KTH and Stockholm University is extended with co-utilisation of research laboratories adjacent to the hospital. Integration of KI and the hospital is a vital component of the plans for a new hospital building on the grounds of Karolinska University Hospital Solna. It must be possible to co-utilise administrative premises and resources.

The new hospital building will be characterised by a high degree of generality, with opportunities for flexible use of premises. Operating efficiency will be achieved with the support of modern infrastructure. The design of the new university hospital must meet stringent standards for an appealing patient and work environment. The hospital must be able to successfully compete with other university hospitals nationally and internationally for referral patients, researchers and qualified healthcare personnel.

The new hospital will be smaller and have a more distinct identity than the current Karolinska University Hospital Solna. The hospital will be designed for about 500 beds and for comprehensive inpatient and day patient care. Some 20-25% of beds will be designated for intensive care, intermediate care and postoperative care. A large laboratory building and a patient hotel for relatives and patients will be docked at the hospital.

The assessment of the committee on a new university hospital was that "there are functional and financial reasons for having only one university hospital in the county". The two university hospitals, Karolinska Hospital and Huddinge Hospital, were merged as of 1 January 2004 to become Karolinska University Hospital, with a joint management organisation. The new management's mandate is to develop Karolinska University Hospital into an internationally competitive university hospital. Coordination gains will be utilised since expertise and resources can be concentrated in conjunction with the creation of a distinct identity for the two units involved, Karolinska Solna and Karolinska Huddinge.