



# CHRONIC CONDITIONS - PATIENT, HEALTHCARE AND COMMUNITY

2006

Summary and recommendations

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National Board of Health, Denmark

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## **Chronic Conditions – Patient, Healthcare and Community**

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## Preface

Today we have extensive knowledge of the appropriate reaction to the diseases characterised as having a chronic course. However, at the same time it is documented that only part of the patients receive the best possible treatment and that the coordination between the sectors of the Danish public health authorities does not always function appropriately in the course of chronic diseases. Improved treatment options, increased life expectancy and changed age structure in the population will result in an increase in the number of patients and thus an increase in the need for public health.

The purpose of this report is to describe the options and assumptions for an improved reaction to chronic diseases. The chronic diseases have a lifelong course and thus the patient's options of actively managing his/her health condition and maintaining a life in his/her own home should be especially emphasised. Consequently, an overall strategy describing organisational, professional and incentive assumptions for an efficient reaction to chronic diseases should in particular focus on strengthening the patient's self-care and on the primary sector. The assumptions for giving first priority to the primary sector are favourable as the practice sector is characterised by a high level of education and a basically appropriate structure that can be adjusted to the special needs resulting from the chronic diseases. At the same time, the local health authorities acquiring new tasks in connection with the municipal reform will develop further in future and thus be in a position to handle its share of the task.

The target group of this report is planners and decision-makers at all levels of the Danish public health authorities, regions, municipalities and the organisations influencing the health authorities and furthermore it is our hope that the report can be an inspiration for both hospitals and the practice sector. To a great extent, the principles described in this report can be utilised in the future effort against the widespread diseases that are in focus in "Sund hele livet – de nationale mål og strategier for folkesundheden 2002-10" (Stay healthy all your life – the national goals and strategies for the public health 2002-10).

An improved patient-centred effort which supports the competence of the individual to manage the disease and emphasises in particular the interdisciplinary continuity during the entire course of the disease will improve the quality of life for patients with chronic diseases. An efficient effort is at the same time the prerequisite for curbing an increasing resource need triggered by a larger population base with chronic diseases and new, efficient but also costly treatment options.

Based on the recommendations in the report, the National Board of Health will continue its work defining the framework for an improved effort to citizens with chronic diseases. This task will encompass a specification of the distribution of tasks and presupposes a continued development of an integral health service ensuring continued and coherent efforts across sectors and professions.

## Summary and recommendations

The course of chronic diseases covered by this report comprises the total lifelong course from the onset of the disease, defined as the first contact with the health service leading to assessment and detection of the diagnosis. Focus of this report is the efforts by the health service from the onset of the disease, including the patient-directed prevention and rehabilitation efforts while the equally important primary citizen-directed prevention is described elsewhere.

The report describes a number of problems with the society's and the health service's commitment to citizens with chronic diseases. The consequences of the quality problems detected are that the course of the disease often becomes more serious and that complications occur, which will result in a need for hospitalisation and resource-demanding treatment. By appropriately organising the effort and by a consistent utilisation of evidence-based guidelines it is possible to influence the course of the disease so that part of such health services is not required.

Together with the appearance of still more efficient and costly treatment options, an increasing ageing population and a resulting increased frequency of people affected by chronic diseases will lead to an increase in the resource requirement. With an appropriate utilisation of the resources and planning of the efforts against chronic diseases it will be possible to reduce this increasing demand for resources. At the same time, the quality of life for an estimated 1.5 million people living with one or several chronic diseases in Denmark will be improved.

During the preparatory work the Chronic Care Model has proven to offer an appropriate framework. The model unites the knowledge available on the value of the individual elements in a multifactorial effect and is described in detail in the report.

The knowledge base and evidence of the stated recommendations is reviewed in the following sections, which also comprise relevant references.

The National Board of Health's recommendations of the future efforts in relation to chronic diseases follow this model and thus the recommendations comprise

- the options of strengthened and supported self-care
- the organisation of the health service
- the contents of the professional health service
- utilisation of supportive decision systems, e.g. guidelines and disease management programmes
- the social reaction, including framework and policies
- disease management support in terms of information technology

In its future work on the area of chronic diseases, the National Board of Health will follow up on the stated recommendations and continue work on the development of disease management programmes and concrete actions regarding self-care, self-monitoring and self-treatment. Furthermore, it is obvious that there is a need for continued development of method and research within the area.

## Recommendations relating to self-care

It is recommended that the options of the individual to live with and manage his/her disease are supported by the health service through a systematic offer to the patient of education and rehabilitation. The options that the individual patient monitors his/her course of disease and is instructed in self-treatment should be utilised.

The patient's knowledge of symptoms, factors influencing the progress of the disease, treatment and appropriate behaviour is a prerequisite for suitable self-care and for the ability to adhere to the necessary treatment. General knowledge of living with chronic diseases and special behavioural patterns may improve the quality of life and reduce the dependency of health-care services.

The best possible quality of life is ensured by, to the greatest possible extent, preventing the exclusion from the labour market and enabling the individual to maintain social and physical activities. The especially exposed and vulnerable groups should receive offers accommodating their special needs.

### General patient education

Patients' experience and knowledge about living with chronic conditions should be utilised and shared with other patients.

### Background

By means of patient education, where patients instructing fellow patients according to a scientifically developed and tested educational programme, patients with chronic diseases achieve an improved quality of life, better symptom control and a reduced need for health-care services. The development is furthermore supported towards considering the patient an active and equal party in relation to the health care service. In cooperation with the Danish Rheumatism Association, the counties of Ribe and Copenhagen the National Board of Health has tested a concept developed at the Stanford Patient Education Centre, Stanford University, USA. The test showed that the concept is suitable also in a Danish context and the course participant's state an effect corresponding to what is stated in literature.

### Action

The National Board of Health concludes a licence agreement on the use of the concept with Stanford University, and an organisation is established to manage the licence obligation, arrange translation and publication of educational material, coordinate training of instructors and quality assure the work. Within each region a network should be established to diffuse the programme and quality assure the programme, and the distribution of tasks should be agreed between the regions, municipalities and private organisations.

### Disease-specific patient education

Disease-specific patient education should be an integrated part of care and rehabilitation. Research and development of programs for disease-specific patient education should be encouraged. Health-care professionals with competencies in communication should be the providers of such education.

#### Background

The patient's knowledge of particular conditions of the individual disease, the significance of variations of symptoms, appropriate behaviour and circumstances regarding the treatment are of importance for the course of the disease, the development of complications and treatment adherence.

#### Action

Disease-specific education should be implemented both during the primary sector course and in connection with hospitalisation. As part of the municipal health-care service, in the future municipality's expertise should be ensured for patient education as part of the rehabilitation of chronic disease, and agreement on the distribution of tasks should be concluded between the general practitioners and the municipality.

#### Self-monitoring

The patients' self-monitoring of the disease should be enhanced and technologies for self-monitoring should be evaluated and the quality of the monitoring should be assured.

#### Background

For a number of diseases it is possible for the patient himself/herself to monitor the course of the disease by means of observation of symptom intensity, measurement of physiological parameters, e.g. weight or blood pressure, or biological measurements such as blood glucose or INR. By basing self-treatment on self-monitoring the treatment effect can be improved resulting in improved quality of life and reduced resource requirements. In connection with tele-medical solutions self-monitoring may form the basis of improved treatment supervised by own GP or specialised centre. New technologies for self-monitoring are developed on an ongoing basis. Such technologies must be evaluated before they are put into service.

#### Action

In connection with the conditions, for which technology and evidence of effect is available, guidelines for self-monitoring should form part of the disease management plans. Agreement on financing of monitoring equipment and establishment of tele-medical solutions should be ensured.

#### Self-treatment

The patients should be actively involved in managing the disease. The relevance of guided self-medication should be assessed individually. Written and oral instructions should support self-medication together with telemedicine technology.

#### Background

A significant part of chronically ill patients are themselves able to administer changes in treatment or dose of drug based on self-monitoring of symptoms or specific parameters. With conditions like diabetes, heart failure, anticoagulant therapy and asthma, there is evidence that self-treatment is suitable for some patients.

#### Action

An individual assessment of the patient's possibilities for self-treatment should be performed in connection with the drawing up of treatment plans. Uniform guidelines should be developed and the patient should be thoroughly instructed in self-treatment, including adverse events and risks of complications. Tele-medical options in order to support the self-treatment in the form of reminders and directions should be used.

#### Vulnerable groups

Vulnerable patients and patients with scarce resources should be supported in order to improve compliance and adherence to the treatment.

#### Background

There is a significant social gradient in the degree of adhering to treatment and behavioural changes, such as smoking cessation, physical activity and dietary changes. Disadvantaged persons and persons with a low level of education thus experience a marked increase in morbidity, a worsened course of disease, need for hospitalisation and excess mortality. Certain ethnic groups also experience special health problems.

#### Action

As part of the assessment of chronically ill patient's criteria should be established to evaluate the patients' individual options to adhere to treatment and carry through relevant behavioural changes. Patients who because of personal, social or ethnic circumstances are estimated to not to be able to carry through and adhere to treatment and relevant behavioural changes should be offered the opportunity of an intensified effort. This may take place through remuneration to the GP for a special follow-up programme for patients fulfilling the established criteria and through a special supportive action from a health-care centre or other municipal health care authority.

#### Method development

Evidence-based methods and programmes for the support of patients' self-care and methods for the quality assessment of these programmes should be developed and implemented.

#### Background

A systematic development of methods for patient education and support of self-care has only taken place to a limited extent, and often a scientific evaluation of the effect of such methods is missing.

#### Action

Research and development of self-care programmes should be encouraged. The programmes to be developed should be structured and documented in order to enable quality assurance.



## Recommendation relating to the organisation of the health service

The organisation of the health service should be adjusted to the special requirements for a continued action in the course of chronic diseases. The health-professional effort is to be provided by a group of health-care providers, which is appropriately organised, comprises all relevant professional groups and has access to and uses knowledge both of the individual patient and the total group of patients across sectors.

Shifts in population trends, life expectancy and way of life have led to a shift in disease patterns with a predominance of chronic diseases and thus to a shift in requirements for the efforts of the health service and the society. Both the practice and the hospital sectors are essentially suited for a reactive, often acute, action in relation to the individual patient. On the other hand, during the often prolonged course of chronic diseases there is a need for a continuous action with a progressive aim, establishment of individual treatment plans and goals as well as an effort graded according to the degree of severity and the phase of the disease. The chronic diseases often lead to complex problems presupposing a variety of health-professional competences and thus the need for an interdisciplinary effort. During recent years, evidence of and consensus on the optimal treatment has been established for most diseases, however, a large proportion of the patients with chronic diseases do not benefit from this.

Thus, it is necessary to adjust the organisation and incentive structure to the changing requirements. Because of the characteristics of the disease with an often prolonged course and the desire to ensure that chronically ill citizens have the best possible quality of life, the effort should be made both within the citizen's own environment and within the primary sector. Consequently, the general practitioners and the municipal health-care professionals play a central role. An important element in the considerations of the organisation of the health service is to agree on and establish a relevant distribution of work between national, regional and local parties for the planning of the action against chronic disease. This could for instance comprise roles and distribution of work in connection with the development of programmes resembling Disease Management Programmes, development of incentives, establishment of decision support and IT as well as establishment of incidence and quality monitoring.

The patient's ability to manage his/her health situation, take advantage of the opportunities for treatment and adjust his/her way of life is of crucial importance for the course of disease, and thus the action of the health service must be aimed at supporting the patient's active role and self-care. The consequence of the development has been that the majority of the resources used within the health service are applied to the treatment of chronic diseases, and prognoses of age and life expectancy predict a continuous increase in the number of chronically ill citizens. An efficient effort may prevent or delay the development of complications and worsening of the disease and thus curb the resource requirement through a reduced need for hospitalisation and social services.

## Focus on the primary sector

The primary Health Care sector embracing the General Practitioners and the Health Care facilities and staff in the communities should have a central role. The structure of general practice and the municipal health care and the coordination of the services with the regional level should be adjusted in order to meet the needs of patients with chronic conditions.

### Background

The course of the chronic diseases, the nature of diagnostics and treatment and considerations in terms of resources suggests that the majority of the course of the disease takes place within the primary sector. Interaction and continuity with the specialised level, i.e. the regional hospital service, must be ensured. In the course of chronic disease a complex action is necessary, an action comprising early assessment and follow-up, competent medical treatment with ongoing adjustment, rehabilitation with elements such as smoking cessation, physical exercise, dietary advice, psycho-social support and support of the patient's self-care. The complexity increases since many patients concurrently have several chronic diseases involving different health-care providers.

### Action

The overall planning of the action against chronic diseases should be coordinated between region and municipalities and between general practitioners and the specialised hospital level. For this purpose regional coordination should be established.

Following the completion of the municipal reform the municipalities will be responsible for prevention, rehabilitation and care. Suitable structures should be established for the carrying out of these tasks, and binding cooperation agreements with the general practitioners should be concluded.

## Regional coordinator

It is recommended that a chronic disease coordinator is appointed at regional level. The coordinator carries out the general coordination, planning and integration as well as quality assurance of the total offer to chronically ill patients within the region. This can thus form the basis for an assessment of educational requirements, organisational changes and resources.

### Background

During the course of chronic diseases there is a need for an effort from both municipal and regional authorities as well as for the development and adherence of disease management programmes that allow for the agreed distribution of tasks. Furthermore, there is a need for training of disease management coordinators and other health-care staff as well as for assurance of a uniform quality within the region. It may thus be relevant to establish a formalised structure to ensure these issues at a regional level.

### Action

Within each region a position of regional chronic disease coordinator should be established. The coordinator will be responsible for the setting up of and adherence to

disease management programmes, quality assurance of these programmes and responsible for the coordination of the regional and municipal effort with inclusion of both practice sector and hospitals.

#### Incentives

Professional and economic incentives for the improvement of services in general practice should be exploited.

#### Background

General Practice in Denmark is characterised by a high level of qualifications and significant professional ambitions. This is for instance accentuated by a number of professional initiatives aimed at improving the quality of the effort. The basic structure is thought to be suitable, and it is estimated that it will be possible to carry out the necessary adjustments within this framework. Within the present agreement system a minor share of the remuneration is composed of a fixed basic amount and the major share is composed of a service fee. This type of remuneration does not support the initiatives originating from general practice. Options to agree on progressive services and to pay for a fixed course documented through diagnosis registration and selected indicators do not exist.

#### Action

Agreements and contracts should support and visualise professional initiatives, which develop and document the quality. This will represent a strong professional incentive. When planning the remuneration system the possibility of supporting the action against chronic diseases by means of financial incentives should be included. This could be by the agreement on remuneration of detailed courses, which follow established treatment programmes and are documented through the reporting of selected indicators. Also, the efforts in relation to defined vulnerable groups may be supported by financial incentives.

Furthermore, the interaction should be assessed between the financial incentives in those areas of the health service that participate in the treatment of chronic diseases, i.e. apart from general practice, also the incentives for the hospitals and the municipal health service.

#### Interdisciplinary effort

It is recommended to strengthen the interdisciplinary effort during the course by using the professional competences of nurses and other health-professional staff groups in cooperation with the general practitioner and the patient.

#### Background

Complex efforts are necessary during the course of a chronic disease. There is increasing documentation that an interdisciplinary team effort in which physicians, nurses and other health professionals take part will result in both an improved adherence to professional guidelines or disease management programmes, more relevant utilisation of the health service and better patient satisfaction as well as health gain.

#### Action

The present development in which general practice to some extent involves other health professionals should be supported through agreements. Thus, it would be possible to plan a team effort in which the competences of the individual professions are used in the best possible way, and as the result of which medical resources are freed. The interdisciplinary effort, which also involves general practitioners, should be organised in a formalised cooperation with the municipal health service.

#### Project leader

It is recommended that the general practitioner is the project leader through the entire course of the chronic disease and that the contents of the function are incorporated into the description of the course.

#### Background

Once the diagnosis has been made, based on guidelines, the general practitioner and the practice staff will be able to perform the relevant follow up during the early stages of the disease and may refer the patient to local offers regarding rehabilitation and advice in connection with diet and smoking cessation. The project-leader function thus involves a planning, coordinating and adhering role.

#### Action

The contents of the project leader function should be detailed and the option to add it as a special function in the agreement should be considered.

#### Case manager

The role of a case manager in the coordination of care and the support of the patient should be defined and the responsibility for this role should be placed. A case manager is needed in advanced and complicated stages of the disease and for patients with scarce resources and difficulties in adhering to care.

#### Background

A case manager, who supports patients with advanced or complicated diseases in carrying through and adhering to treatment, coordinates and prepares planned examinations and coordinates discharges, may improve the quality of life for the patient, prevent or delay complications and reduce the need for health services. A case manager is also necessary for persons with little possibility of caring suitable for themselves and adhering to treatment.

The requirement for such coordinating effort is emphasised by the fact that many patients have several concurrent chronic diseases.

#### Action

Objective criteria are established for the time during the course when a case manager is required. The case manager may be attached to practice, to the municipal health service or to a hospital department. The actual organisational place may dif-

fer according to the chronic disease, depending on the requirement for specialised action.

Agreements on establishment and organisational place of the case manager function should be concluded between the regions and the municipalities. They can advantageously form part of a health agreement between region and municipalities.

#### Distribution of tasks/Shared Care

It is recommended that disease management programmes describe the distribution of tasks between the general practitioner, the specialised level and the municipal health service.

#### Background

Essential parts of the course of chronic disease can be taken care of by the primary sector but a periodic effort from the specialised level will often be required in connection with diagnostics, establishment of treatment plans or in connection with disease exacerbation or complications. It is necessary to establish criteria to determine which authority takes care of the individual phases of the disease management programmes for the individual chronic diseases. The continuity of the effort should be ensured through information sharing and coherent treatment programmes.

#### Action

The disease management programmes describes the distribution of tasks between general practitioners and hospitals and the municipalities' health service. The possibility of agreeing on special remuneration for the practice sector's participation in the programme should be considered. In order to free the required medical resources new forms of organisation and the involvement of nurses and other health-care staff should be considered. Their specific tasks, educational requirements and areas of competence should be described.

#### Method development, education and research

It is recommended that the development of methods, educational offers and research in the effort against chronic diseases is coordinated.

#### Background:

The existing evidence of the efforts against chronic diseases comprises in particular the documentation of the concrete treatment results of an intensified effort. It is, however, necessary to develop and elucidate the effects of the different organisational models used in connection with the effort as this is elucidated to a lesser degree.

#### Action:

The parties of the health service are to agree on how to implement and coordinate development of method and establishment of required educational offers as well as how the resulting effects can be elucidated in actual research or other documentation methods. In areas with particular requirements for research efforts this should also be coordinated.

## Recommendations relating to the health-care service

### Diagnosis and stratification

It is recommended that criteria are established for diagnosis and stratification in relation to chronic diseases and that diagnosis and stage of disease is reported to clinical databases or diagnosis registers.

#### Background

Registration of the diagnosis and the stage of disease is a prerequisite for preparing an individual disease management plan adjusted to the individual patient's stage of disease and individual requirements. Diagnosis registration is a prerequisite for epidemiological monitoring, dimensioning and quality assurance of the efforts of the health service.

The establishment of clinical databases will form the basis of reporting of selected indicators and thus the quality assurance of the efforts against chronic diseases.

#### Action

Criteria for diagnosis registration of chronic diseases and for stratification according to the special needs of the individual patient should be established. Diagnosis registration should form part of agreements as a prerequisite for remuneration of services.

### Individual disease management plan

It is recommended that an individual disease management plan is prepared based on diagnosis and stratification. The disease management plan must be in accordance with the professional guidelines and comprise individual goals.

#### Background

An individually adjusted disease management plan which is in accordance with a professionally motivated disease management program and which is adhered to throughout the course of the disease results in reduced morbidity and mortality.

#### Action

It is recommended that an individual disease management plan is prepared for the individual patient with the setting of treatment goals. The plan should be based on an evidence-based disease management programme and allow for the patient's personal circumstances, stage of disease and possibility of completing and adhering to treatment and an appropriate way of life.

The assessment of educational, social and personal conditions of appropriate self-care and completion of treatment must be included in the preparation of the plan and actions to maintain especially weak patients should also form part of the plan.

## Recommendations relating to decision support

It is recommended that programmes are prepared for the large disease groups in the form of *disease management programmes*. The disease management programmes should be based on the available evidence and comprise the total course of the disease across professional groups and sectors. They should be based on consensus in an interdisciplinary development process and comprise a description of structure and process.

### Background

The purpose of the disease management programmes is to ensure a treatment, which is in accordance with the scientific evidence and the patient's preferences and at the same time involves considerations in terms of resources. There is extensive knowledge about the specific health-care efforts that are necessary in connection with the chronic diseases. To a certain extent, these efforts are described in reference programmes and professional recommendations, and usually with professional consensus. Programmes that also allow for considerations in terms of organisation and resources, such as rational therapy and suitable forms of treatment are referred to as *disease management programmes*. Programmes for chronic diseases should be in that form. The programmes should describe the overall organisational and interdisciplinary framework of the effort. The need for action depends on the complexity of the disease, on any concurrent incidence of several diseases and on the resources of the individual patient. The disease management programmes should allow for these conditions by describing a differentiated effort.

### Action

The preparation of disease management programmes presupposes an organisational structure and has to be viewed in connection with the preparation of reference programmes, development of a Danish quality model and experience from medical technology assessment. Thus, the organisational characteristics must be considered carefully as the National Board of Health, regions and municipalities are interested parties. Both health-care and organisational expertise should be included.<sup>1</sup> Research on development, implementation and quality assurance of disease management programmes should be supported. Disease management programmes should be in accordance with health-care knowledge and should be quality assured via selected indicators. The implementation of the developed disease management programmes should be supported and evaluated in an ongoing process. All the professional groups important to the course of chronic disease should be involved in the development of disease management programmes, and consensus should be reached on the final result.

Disease management programme and information about the treatment must be shared with the patient in order to support the patient's active participation.

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<sup>1</sup> Kaiser Permanente has in the USA established a Care Management Institute that carries out and quality assures disease management programmes. This institute may serve as a model for the development of a suitable structure in Denmark.

## The society

### Patient motivation

The local community and its structures should to the greatest possible extent motivate the patients to active self-care and appropriate behaviour.

#### Background

The motivation of the individual patient is crucial for the completion and adherence of self-care. Motivation is increased by an active and open attitude. Thus, the involved parties also have to equip themselves for meeting the patient in the patient's environment and preferably as early as possible in the progression of the chronic disease.

#### Action

The health-care staff in the municipal health service, in general practice and other health-care professionals should qualify themselves for strengthening the patients' motivation for self-care. The same applies to the social sector, patient organisations, educational organisations, recreational organisations as well as other public and private organisations.

### Partnerships

The opportunity to form partnerships for the benefit of patients with chronic diseases should be used. Patient organisations, adult education associations and athletics associations should be involved in an active cooperation.

#### Background

An active correlation between health service, adult education associations, educational organisations, patient organisations and other public and voluntary organisations may lead to a strengthened and noticeable contribution for patients with chronic diseases.

#### Action

Based on the municipal health service all relevant cooperation partners within the local environment should be identified and actively involved in the formation of a network to coordinate and plan the effort for chronically ill citizens. Patient education programmes, physical activity and diet could be focus areas.

### An active policy

The health-care consequences of all local-authority decisions should be assessed systematically and decisions within the health-care area should aim at supporting the citizens' prospects of appropriate health behaviour.

#### Background

A large number of political decisions involve health-care consequences. This may be the case within, for instance, the areas of environment, traffic or education. Within the health-policy area it is possible to formulate a policy that focuses on prevention, care and rehabilitation in such a way that the citizens' motivation for



self-care is supported. For citizens who because of personal, social or ethnic circumstances are particularly vulnerable a targeted effort should be planned.

#### Action

Political decisions should be assessed consistently with a view to health-care consequences. Health-policy decisions should aim at strengthening the citizens' motivation and opportunities for active self-care and at ensuring that relevant structures and resources are in place.

## Recommendations relating to IT support of the course

### Clinical information systems

The clinical information systems used within the health service should be further developed in order to function as a platform for knowledge sharing between all the health-service parties involved in the course of chronic diseases.

Knowledge sharing via clinical information systems is a prerequisite for patients with a need for treatment and care from different parts of the health service receiving efficient and correct treatment. In this connection an efficient project-leader and case-manager function is a must.

Knowledge sharing between the health-care parties should take place via the clinical information systems already in use locally. The prerequisites for this are not available at the present time.

It is recommended to carry out an ongoing collection of experience in order to assess possible future actions.

### Knowledge sharing and information to chronically ill patients

Sundhed.dk should be the platform for knowledge sharing with and information to chronically ill patients.

#### Background

Sundhed.dk is an established platform for information about the health service and for citizens' access to knowledge of self-treatment and drug consumption. A large part of the population has access to the Internet and the degree of coverage continues to increase.

#### Action

It is recommended that Sundhed.dk is further developed for the purpose of being a joint information platform and that work continues on a planned project on knowledge sharing on diabetes, as experience in terms of organisation and technology with interdisciplinary solutions can be obtained that way.

## Epidemiological monitoring and quality assurance

Epidemiological monitoring and quality monitoring should be established as part of the disease management programmes for chronic diseases. To form the basis for this, diagnosis and selected data should be registered as soon as the disease is detected.

### Background

Monitoring of disease incidence and quality is a prerequisite for planning, completing and following up of disease management programmes for chronic diseases.

### Action

It is recommended that epidemiological monitoring and quality monitoring are used systematically in the planning and treatment of chronic diseases and also that incidence and quality data are used distributed and followed up systematically within each region.

## Stratification of disease groups

Data capture and information systems may be planned with a view to stratification of disease groups which may form the basis of the preparation of disease management programmes adjusted to the needs of the individual patient.

### Background

Stratification of disease groups requires distinct criteria and data to be used by the health-care professionals who diagnose and treat the chronic patients.

### Action

Stratification as illustrated by the chronic disease management pyramid may take place using data collected as part of epidemiological monitoring and quality monitoring provided that the data chosen for registration are selected for this purpose.

## Clinical information systems and financing

The established clinical information systems can be planned so that they can be used as feeding systems for changed financing models within the health service.

### Background

It is thus recommended that agreements and contracts are prepared with a view to supporting and documenting the quality.

### Action

As the basis for a quality assessed remuneration system it is required that the data included in the financial calculation are registered in the information system.

In connection with the planning of the registration one has to be aware that when quality data are used for the financing, built-in financial incentives are used to manipulate data.