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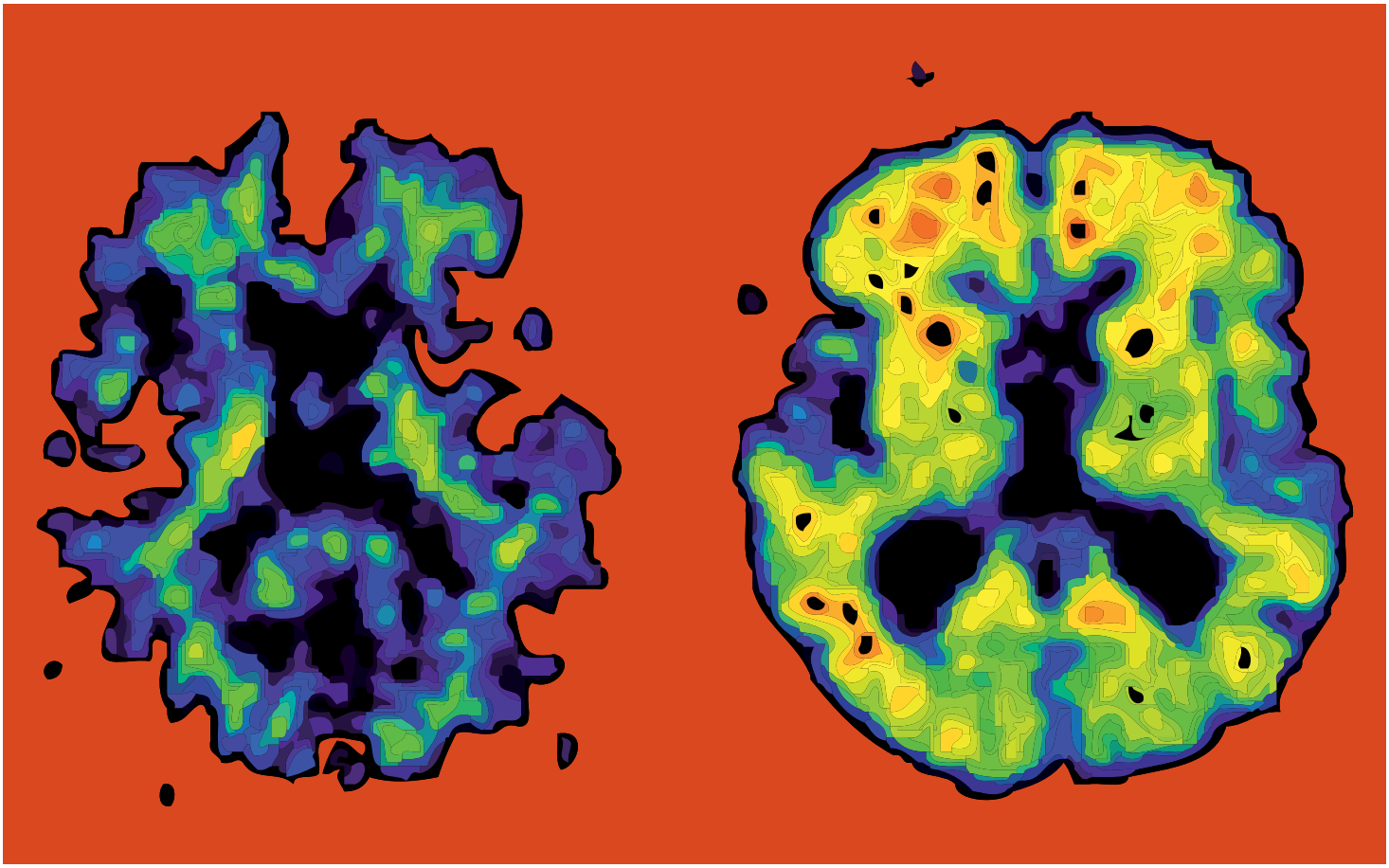

DIAGNOSTIC EVALUATION AND TREATMENT OF DEMENTIA

– a health technology assessment

SUMMARY

2008

Health Technology Assessment 2008; 10(2).

Sundhedsstyrelsen
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Health Techology Assessment

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For further information, please contact:
National Board of Health
Monitoring & Health Technology Assessment
Islands Brygge 67
DK-2300 Copenhagen S
Denmark

Phone +45 72 22 74 00
E-mail: dacehta@sst.dk
Web site: www.dacehta.dk

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Front-page image: a new method for imaging the brain with PET scanning: an 11C-PIB-PET image showing the levels of amyloid protein in the brain of a person with Alzheimer's disease (right) and the brain of a healthy person (left). The red and yellow in the image of the person with Alzheimer's disease indicate high amyloid levels, whereas the blue in the healthy person indicates almost no amyloid in the brain. Courtesy of the PET and Cyclotron Unit, Department of Clinical Physiology and Nuclear Medicine, Rigshospitalet – Copenhagen University Hospital.

Preface

Dementia is a major noncommunicable disease, and as many as 80,000 people in Denmark have a dementia disorder. Demographic trends increasing the number of older people in the population will strongly increase the number of people with dementia in Denmark in the next 30 years. Ensuring appropriate diagnostic evaluation and treatment of dementia is therefore a great challenge. Since secondary health care and general practitioners undertake most of this work, this report focuses on these parts of the health care system in Denmark.

Several methods can be used to diagnose dementia, and this health technology assessment assesses the evidence related to the various methods used for diagnostic evaluation. Treatment is multifaceted, including drugs that can delay the symptoms but not cure the people who have dementia. The report assesses the efficacy of drugs for treating dementia and various types of interventions to support the informal caregivers of people with dementia. The report thus analyses hospital-based initiatives and initiatives of general practitioners under the auspices of Denmark's administrative regions but does not assess the overall efforts to support people with dementia and their caregivers, since this includes extensive social and health care activities under the auspices of the municipalities.

This health technology assessment is based on the results of a report published by the Swedish Council on Technology Assessment in Health Care. In addition to providing updated knowledge on diagnostic evaluation and treatment, this report makes suggestions for the future organization of dementia-related services and assesses the economic costs of the diagnostic evaluation and treatment of people with dementia. The report also describes how people with dementia view their experience with diagnostic evaluation and treatment.

This report is part of the Health Technology Assessment series of the National Board of Health and is the result of substantial work by the interdisciplinary project group. The members of the project group have provided written declarations on potential conflicts of interest, and relevant external experts performed peer review. This report comprises scientific guidance for decision-makers in the health care system and does not necessarily reflect the opinions of the National Board of Health.

This report will be useful for political, administrative, and clinical decision-makers in the health care system. The National Board of Health thanks the members of the project group for their extensive efforts, which have been decisive in completing the report. Finally, a special thanks to the Swedish Council on Technology Assessment in Health Care, which kindly provided access to their report before it was published.

National Board of Health
June 2008

Finn Børlum Kristensen
Director of Health Technology Assessment

Summary

Background and purpose

Dementia is a major noncommunicable disease, and an estimated 60,000 to 80,000 people in Denmark have dementia. Of these, more than half have Alzheimer's disease, which is the most common cause of death among diseases of the brain.

The prevalence of dementia will increase in the coming years as life expectancy increases and the number of older people in the population increases. An estimated one third of the people with dementia receive a specific diagnosis and are offered any treatment that may be available.

Diagnostic options for dementia have been under development for many years, and disease-specific diagnosis is required to determine the appropriate treatment and support. Many diagnostic instruments are available for the diagnostic evaluation of people suspected of having dementia, and assessing the evidence related to the individual aspects of the diagnostic evaluation process will contribute to improving diagnostic evaluation and making it more effective.

Improved diagnostic methods enable more people with dementia to receive a diagnosis of dementia and at an earlier stage. This will be important for many people with dementia and their informal caregivers and will also affect the organization and funding of dementia-related services.

Treatment of people with dementia disorders is multifaceted and includes treatment with new drugs specific to dementia and intensive psychosocial support. The evidence related to the use of specific drugs in dementia should be assessed to ensure optimal pharmaceutical treatment.

Recent studies indicate that systematic interventions to support the caregivers of people with dementia reduce anxiety and depression among the caregivers and increase the potential for the caregivers to cope with difficult situations in interacting with the person with dementia. Thus, interventions to support families should be included in assessing the treatment of people with dementia.

The attitudes of and experience with diagnostic evaluation and treatment of people with dementia and their caregivers need to be assessed, because informing, counselling and treating people with declining autonomy pose special ethical and legal challenges and because recent studies indicate that people with dementia and their caregivers are ambivalent towards diagnostic evaluation and treatment.

The services available for the diagnostic evaluation and treatment of people with dementia vary between Denmark's five new administrative regions (and across the 16 regions that were abolished on 1 January 2007), and the administrative regions have not completed the planning of the future organization of dementia-related services. Thus, analysing the organizational problems in these services can support the dementia-related planning of the administrative regions.

The economic costs of the diagnostic evaluation and pharmaceutical treatment of people with dementia disorders have not been determined. Since many more people are expected to undergo diagnostic evaluation and begin pharmaceutical treatment for

dementia and since new options for diagnostic tests have emerged in recent years, assessing the economic effects of this is important.

National health technology assessments on dementia have been published in several countries recently, including one from the Swedish Council on Technology Assessment in Health Care, and international guidelines on dementia have been issued. Finally, the National Board of Health published a report on dementia in 2001. This report uses these previous reports together with updating the literature to assess the evidence on the diagnostic and treatment options and to analyse the aspects related to the people with dementia and their caregivers. Contributing to the decision-making in Denmark required new analysis of the organizational and economic aspects of dementia-related services.

Purpose

The purpose of this report is to contribute to the decision-making basis for the future setting of priorities for the diagnostic evaluation and treatment of people with dementia and the organization of dementia-related services in Denmark.

Delimitation and methods

The background for this report was a desire to assess the evidence for the drugs used to treat people with dementia and to produce a framework for organizing the dementia-related services by Denmark's administrative regions and for planning of the medical specialities involved by the National Board of Health. This required a tight deadline, and this report therefore solely covers the diagnostic evaluation and treatment of people with dementia in secondary health care and in general practice.

This report focuses solely on the services organized by Denmark's administrative regions although the municipalities provide a very large share of dementia-related services. This report was written with the knowledge that a broader focus including municipal activities could have served as a starting-point for the current and future planning of the municipalities. This could comprise a coherent service framework for people with dementia, care for people with chronic dementia and the formal agreements on health and social care, mandated by legislation, between each administrative region and the municipalities within the region. The treatment of people with dementia is complex, since social care is an important part of the overall dementia-related services. Thus, these areas urgently need to be systematically assessed, and focusing on municipal dementia-related services in future reports is very important.

Dementia is an umbrella term for many diseases and disorders, and this report covers Alzheimer's disease, vascular dementia, Lewy body dementia, frontotemporal dementia and mild cognitive impairment. The report also covers dementia in Parkinson's disease in relation to pharmaceutical treatment. The report focuses on pharmaceutical treatment and interventions to support the caregivers of people with dementia.

This report is based on a report on dementia published by the Swedish Council on Technology Assessment in Health Care, and this report follows the Council's literature review where this is possible and relevant. The evidence in this report is thus mainly based on a systematic literature review, although primary data were gathered to describe some aspects of the organization of dementia-related services.

Diagnostic evaluation

The purpose of the diagnostic evaluation of people suspected of having dementia is to arrive at a specific diagnosis to determine their need for social care and treatment.

People with impaired memory or other symptoms of potential dementia disorders comprise a heterogeneous group with varying needs for diagnostic evaluation.

The accuracy of the most commonly used diagnostic criteria for the primary dementia disorders is not optimal and depends strongly on the clinicians' experience in this field. All these criteria stipulate that the core of diagnostic evaluation is thorough clinical examination, which includes taking a thorough medical history plus information from caregivers and other family members, general psysical and neurological examination, examination of cognitive, nervous system and mental symptoms, examination of functional capacity for the activities of daily living (ADL) and assessment of the burden the person with dementia places on his or her caregivers. Depending on the organization of services locally, this core may include referral to other specialist physicians for clinical diagnostic evaluation. Genetic diagnostic evaluation of the person and his or her family are relevant if an autosomal-dominant inherited dementia disorder is suspected but is not necessary in any other case.

Paraclinical investigation with laboratory tests and cranial computed tomography (CT) scanning is sufficient for most of the people with moderate to severe dementia, and strong evidence indicates that this contributes substantially to identifying the causes of dementia. Examination by a neuropsychologist is indicated in many cases, especially in the diagnostic evaluation of people with early-stage dementia or questionable dementia. Strong evidence indicates that additional paraclinical investigations are often required and contribute significantly to diagnostic clarification for people with mild or questionable dementia and for people with certain symptoms and clinical findings. This mainly includes magnetic resonance imaging (MRI), which is preferable to CT (or supplements it) when more specific diagnostic evaluation is needed to differentiate between Alzheimer's disease, various other focal degenerative disorders and cerebral small-vessel disease. Diagnostic imaging with positron emission tomography (PET) or single-photon-emission computed tomography (SPECT) and lumbar puncture may be used when the diagnosis is uncertain and/or the specificity of the diagnosis of Alzheimer's disease needs to be enhanced. Scanning with carbon-11-labelled Pittsburgh Compound B (PIB) PET is a promising method, and its role in diagnostic evaluation has not yet been determined. The initiation and scope of diagnostic evaluation are planned based on the general health status of the person to be evaluated and must consider the expected results. The diagnostic evaluation should be thorough enough that the disease or disorder causing the symptoms can be specifically diagnosed, such that specific social care initiatives or pharmaceutical treatment can be planned. Some people with dementia need special investigations in collaboration between several specialties within highly specialized departments when their disease or disorder is complex.

Pharmaceutical treatment

Pharmaceutical treatment is efficacious for people with some dementia disorders, mainly Alzheimer's disease. The drugs currently approved in Denmark for treating people with Alzheimer's disease solely reduce symptoms. They improve cognitive functioning and functional capacity in ADL but have no documented efficacy on the pathological changes in the brain and cannot cure the people being treated.

In principle, the drugs can improve, stabilize or slow the progression of the symptoms. Thus, treatment may have efficacy even though the disease continues to worsen. The efficacy of drugs for treating Alzheimer's disease is normally assessed according to: global functioning; cognition; functional capacity in ADL; and behavioural and psychological symptoms in dementia (BPSD, symptoms of disturbed perception, thought content, mood and behaviour).

No international consensus has emerged yet on how drugs for treating dementia will be or should be evaluated in daily clinical practice or on how a given efficacy measured using one of the many dementia-related rating scales should be converted to daily clinical significance. Finally, transferring results from clinical trials into prognoses for individuals is difficult. Denmark has three cholinesterase inhibitors (donepezil, rivastigmine and galantamine) approved for treating mild to moderate Alzheimer's disease and memantine, a noncompetitive N-methyl-d-aspartate acid (NMDA) receptor antagonist, for treating people with moderate to severe Alzheimer's disease. Rivastigmine has also been approved for Lewy body dementia and dementia in Parkinson's disease.

Specific pharmaceutical treatment of patients with dementia

The pharmaceutical treatment of patients with dementia supplements other dementia-related services and should always be evaluated based on the situation of the individual person with dementia, including the need for nursing and care. No study has investigated how long pharmaceutical treatment should continue.

For patients with mild to moderate Alzheimer's disease, cholinesterase inhibitors generally have clinically significant efficacy in global symptoms, cognition and ADL, whereas the efficacy on BPSD has not been determined. These drugs may improve, stabilize or slow the progression of dementia. Cholinesterase inhibitors have not demonstrated any certain efficacy among patients with severe Alzheimer's disease. Memantine has clinically significant efficacy among patients with moderate to severe Alzheimer's disease, especially for global symptoms and cognition, and among people being treated simultaneously with cholinesterase inhibitors. No evidence indicates that any other pharmaceutical treatment of patients with Alzheimer's disease has any clinical efficacy.

Cholinesterase inhibitors and memantine have dubious clinical efficacy among patients with vascular dementia. Among patients with mild to moderate Lewy body dementia or mild to moderate dementia in Parkinson's disease, rivastigmine is the only drug investigated, although these few studies showed efficacy. Among patients with mild cognitive impairment, treatment with cholinesterase inhibitors does not have any clinical efficacy. Galantamine treatment has demonstrated possible excessive mortality among patients with mild cognitive impairment. Memantine treatment has not been investigated among patients with mild cognitive impairment. Frontotemporal dementia has no specific treatment.

Treatment of behavioural disorders with psychotropic drugs

No psychotropic drug has been approved in Denmark for treating BPSD among patients with dementia. Patients with BPSD should be examined for somatic illness and drug side effects, and nursing and care should be evaluated and optimized. Psychotropic drug treatment should not be considered until other initiatives have proven inadequate. Treating patients who have BPSD with first-generation antipsychotic drugs is inappropriate because of side effects. The efficacy of second-generation antipsychotic drugs on BPSD has been poorly documented, and even though the efficacy of antipsychotic drugs is superior to that of placebo, the overall value of antipsychotic

drug treatment for patients with dementia who have psychotic symptoms, aggression or agitation is doubtful because of the side effects. Treatment with first- or second-generation antipsychotic drugs increases the risk of stroke compared with placebo.

The efficacy of antiepileptic drugs for treating patients with BPSD has been inadequately documented. Tricyclic antidepressants have demonstrated uncertain efficacy, and the risk of side effects is substantial, including reduced cognitive functioning. The efficacy of selective serotonin-reuptake inhibitors (SSRI) on symptoms of depression in mild to moderate dementia has been poorly documented, but a few studies found efficacy. The efficacy of SSRI antidepressants in severe dementia has not been determined. Evidence indicating efficacy in other behavioural disorders is limited. No controlled trials have been carried out for other recent antidepressants.

Interventions to support caregivers

In the past 20 years, great attention has been focused on investigating the efficacy of intervening to support the caregivers of people with dementia to prevent stress and physical and mental symptoms. The study designs have been improved over the years, but meta-analyses and systematic reviews indicate a general lack of studies of high methodological quality that include randomization, blind assessment of outcome measures, sufficient participants and validated outcome measures relevant to caregivers and the people with dementia. Further, qualitative studies of high methodological quality are lacking. Similarly, no study has focused on intervention to support the caregivers of people newly diagnosed with early-stage dementia. In addition, no study has involved the people with dementia themselves in the intervention with counselling and support services customized to their individual needs. Finally, no study has investigated any undesired effects of interventions to support caregivers.

Based on these studies, interventions to support caregivers reduce their depressive symptoms and enhance their knowledge. Generalizing the outcome of the interventions on the progression of dementia is difficult based on the literature review. Nevertheless, several studies indicate that moving to a nursing home or other assisted-living facility can be delayed, since the caregivers have more energy to cope with difficult situations in interacting with the person with dementia at home. Thus, studies that systemically investigate and include how the people with dementia experience the interventions would be desirable.

People with dementia and their caregivers

The literature review emphasizes the challenges and effects of a dementia disorder related to the loss of cognitive functioning, which often greatly influences the understanding and management of autonomy and competence among people with dementia. The effects of a dementia disorder mean not only changed roles and competencies among the people with dementia and their caregivers but also illustrate that legislation on patients' rights and confidentiality may be implemented differently in practice in relation to involving and counselling the person with dementia and his or her family members. The literature review thus indicates the importance of continuing to focus on developing the professional and personal qualifications of health care workers in relation to the process of diagnostic evaluation and treatment of people with dementia. The literature review especially indicates that general practitioners have a key role. Further, the literature provides no basis for indicating the significance of specific types of health care workers in relation to the diagnostic evaluation of people with dementia,

but since dementia may emerge at a young age, avoiding solely focusing narrowly on the interface between older people and the health and social care system is important in planning for dementia.

According to the literature, both the general population and health care professionals have poor knowledge on dementia and how to differentiate it from the normal processes of ageing, which fosters late or no diagnostic evaluation of people suspected of having dementia. The person with dementia, caregivers and general practitioners may have difficulty in seeing the early signs of dementia and often interpret the initial changes in memory or cognitive functioning as being normal. The diagnostic evaluation for dementia is not initiated until someone can recognize patterns from a previous encounter with dementia disorder or when the deviation from perceived normality reaches a critical level.

The literature indicates that people's lack of desire to get an emerging suspicion of dementia confirmed is a factor that may influence and probably delay diagnostic evaluation for dementia. The reasons for this include not knowing the advantages of early diagnosis and anxiety about the effects of dementia if the diagnosis is confirmed. The literature emphasizes that the diagnosis of dementia especially affects three areas: awareness of the disease or disorder, the relationship to the partner and the other social relationships of the person with dementia and his or her family members.

Informing the people with dementia about their diagnosis and the progression of and prognosis for dementia is important ethically and practically. Providing this information influences the understanding and acceptance of the disease and is a prerequisite for treatment, nursing and support for both the person with dementia and caregivers. Further, it influences the ability of the person with dementia and caregivers to plan for the future based on the expected changes in cognitive and social functioning.

Patients generally have the right to be informed about their own health, and a few recent studies indicate that patients increasingly want to be informed about their health. Patients have the right to be informed according to Danish law, and international guidelines also recommend appropriately informing people with dementia. Nevertheless, disclosing the diagnosis seems to be a problem. Studies in Europe estimate that only half of all physicians inform the patients of their diagnosis, independent of medical specialty but varying considerably between physicians. No study has indicated whether Denmark has similar conditions. Nevertheless, Denmark's legislation has mandated patients' rights, including the right to be informed about one's diagnosis, since 1992, and this was previously an informal legal principle, which indicates that Denmark may have greater openness than the broader European studies indicate.

The effects on both people with dementia and caregivers of being informed about the diagnosis vary according to the psychological and social context, including intellectual ability, personality, network and opportunities for support. The potential of the people with dementia to understand the information provided changes as the disorder progresses, and sensitivity is therefore needed in relation to their desire and capacity to receive and process information. The need for information should be considered a process and continually be assessed, and the caregivers should be involved to the extent that this is desired and possible.

The literature emphasizes theoretical and ethical considerations related to pharmaceutical treatment of dementia. These include the efficacy of pharmaceutical treatment in

slowing the progression of a dementia disorder and the emergence of unrealistic expectations towards pharmaceutical treatment and problems related to stopping pharmaceutical treatment. Nevertheless, few studies have focused on how the people with dementia view the drugs, and as general knowledge on dementia grows, the expectations towards drugs for treating dementia are probably more realistic today than they were 10 years ago, when the first drug for treating dementia became available.

This chapter of the report demonstrates the need for increasing the knowledge on dementia among the general population. Specific knowledge is still needed on how early detection and diagnosis can best be promoted among people with dementia in Denmark, and knowledge is generally lacking on the views of people with dementia on diagnosis and treatment.

Organization of dementia-related services

Dementia-related services still vary in organization across the 16 regions that were abolished on 1 January 2007, but consideration is being given to how these services should be organized within the new administrative regions. The analysis of the organization of dementia-related services aimed to determine the domestic and international experience related to organization, to describe the overall care pathways in general practice and secondary health care and to analyse the roles of general practitioners and secondary health care for the purpose of presenting possible models for the future organization of dementia-related services.

The experience and recommendations in Denmark, assessed by analysing existing reports on organization, especially indicate the need to ensure coherence across sectors, medical specialties and professionals in dementia-related services. The need for models of collaboration and shared-care models is considered decisive for appropriate organization with the aim of ensuring that the efforts to provide appropriate health care involve all relevant types of health care workers. All these groups of workers should have access to and use the knowledge on each individual person with dementia and on the overall group of people with dementia across sectors. Further, these models may contribute to ensuring that each person with dementia is linked to a regular team in primary and secondary health care during a long-term care process.

The analysis of the existing organization of dementia-related services mainly shows that practice is very heterogeneous, with great differences in the management of dementia-related services. This poses challenges in ensuring systematic improvement throughout Denmark.

Further, the analysis of the roles of general practitioners and secondary health care shows that the continuity of services for the people with dementia between the sectors and medical specialties in secondary health care poses special challenges. The criteria for referring people with dementia to secondary health care differ substantially across the 16 regions that were abolished on 1 January 2007, and these criteria are not based on evidence. This applies especially to the criteria for referring people suspected of having dementia to diagnostic evaluation, in which secondary health care is preferably provided in a collaborative referral process between geriatrics, neurology and psychiatry. Thus, referral should take place across specialties instead of being solely based on general practice, geriatrics, neurology or psychiatry, and scientifically based criteria for referral should be prepared. Scores on the Mini-Mental State Examination and age are especially inappropriate criteria for referral for diagnostic evaluation. The criteria for

ending treatment in secondary health care and referring people for follow-up in general practice also differ throughout Denmark. The situation is similar for referring people to various types of specialists in secondary health care, since Denmark has four models for the organization of dementia-related services in secondary health care.

General practitioners have an important role, and ensuring that they have adequate knowledge and good tools to manage their assigned role is especially important. This applies both to diagnostic evaluation and following up people with a progressive dementia disorder in which predicting the course of disease and the needs of the person may be difficult.

Based on the analysis, two possible models are presented to inspire the future organization of dementia-related services. Both models strongly emphasize ensuring an approach that bridges the various specialties. This will ensure that secondary health care is provided in a collaborative referral process between geriatrics, neurology and psychiatry, such that referral takes place across specialties instead of being solely based on general practice, geriatrics, neurology or psychiatry. The first model envisions specialist physicians continuing to be based in their own departments or clinics but being part of binding referral collaboration and perhaps with additional collaboration on the care pathways. The second model envisions establishing a dedicated interdisciplinary unit that includes geriatrics, neurology and psychiatry.

The need for specialized functions is described briefly, and needs are outlined that should be considered in the future planning of these functions.

The future organization of dementia-related services should account for the scientific development within diagnostic evaluation and treatment and should ensure coherent diagnostic evaluation, treatment and follow-up of high quality. Importantly, as part of following up this report, the municipalities' efforts in providing dementia-related services and their relationship with general practitioners and secondary health care need to be analysed to enable the municipalities and the regions to plan the appropriate overall organization of these services.

Economic analysis

The number of people with dementia will increase in the coming years. Assuming that Denmark had 55,000 people with dementia in 2007, the annual cost of dementia-related services in Denmark is an estimated €935 million (at 2007 prices), excluding the costs of informal care. This estimate is mainly based on a study in Denmark, and these estimated costs will increase in the coming years as the number of people with dementia increases.

There is potential for increased efforts in diagnostic evaluation, since only an estimated one third of the people newly acquiring dementia undergo careful diagnostic evaluation. If the target is 75%, this would require additional expenditure of €9.0 million annually (2007 prices). This is about 1% of the total cost of dementia-related services, a modest proportion.

Increased activity in diagnostic evaluation is expected to provide an earlier and more specific diagnostic evaluation for each person with dementia, which may then result in more targeted treatment and care. Thus, the early diagnostic evaluation of more people with dementia may result later in improved use of resources, and increased diagnostic

evaluation will therefore not necessarily be associated with increased costs in the long term.

The literature review of the economic analyses cannot clearly conclude whether treating people with dementia with cholinesterase inhibitors or memantine generally reduces costs, has no effect on costs or increases the costs to society. More people are expected to be treated with cholinesterase inhibitors or memantine in the coming years. Based on the studies that estimate that pharmaceutical treatment reduces costs or has no effect on costs, the annual drug costs of €33 million (€1660 per person treated) will be counteracted by later savings. No economic analyses of pharmaceutical treatment for dementia are available based on data from Denmark.

Importantly, the analyses presented here are subject to uncertainty. People with dementia comprise a heterogeneous group, and this implies, among other things, that economic analysis of dementia-related services is relatively complex and comprehensive: one reason is that diagnostic evaluation, treatment and care involve many actors. A special challenge is estimating the costs of informal care. Further, the results imply that the cost of care is a very high proportion of the total cost of the services associated with dementia.

Perspectives

The potential for the diagnostic evaluation and treatment of people with dementia is developing rapidly. With new options for diagnostic evaluation and treatment and the general population becoming more aware of the potential, the number of people suspected of having dementia referred to diagnostic evaluation is expected to increase in the coming years. Further, these people will probably increasingly be referred in an early stage of a dementia disorder in which the symptoms are mild and easy to confuse with other diseases and disorders. This also means that more and more people with similar symptoms will be referred for diagnostic evaluation without a dementia disorder being detected. Diagnostic evaluation is more complex in the early stages of dementia. When more people visit their general practitioner with mild symptoms, this enhances the need for appropriate referral and for the examinations that need to be available for people who are referred to secondary health care for diagnostic evaluation. In addition, intensive research is investigating new opportunities for earlier and more specific diagnostic evaluation.

Similarly, the increased availability of PET may result in improved access to supplementary brain imaging compared with the current limited access to SPECT. In addition, imaging methods integrating CT and PET are now available at several locations in Denmark. Finally, introducing PIB-PET may result in completely novel options for accurate diagnosis of early-stage Alzheimer's disease. The expected development of a fluorine-18-labelled PIB amyloid ligand may ensure the availability of amyloid protein imaging using PET at more hospitals.

Any approval of new disease-modifying forms of treatment that are being developed will result in the need to ensure correct diagnosis and to follow up the efficacy and safety of treatment with repeated MRI and examination of cerebrospinal fluid. Future diagnosis and treatment therefore poses new challenges for the organization of dementia-related services across specialties and sectors and with the involvement of new professionals.

Dementia is a major noncommunicable disease, and demographic trends increasing the proportion of older people in the population will strongly increase the number of people with dementia in Denmark in the next 30 years.

This is a summary of a health technology assessment report (in Danish) that assesses the evidence related to the various methods used for the diagnostic evaluation of people suspected of having dementia and presents the evidence related to the pharmaceutical treatment of people with dementia. Further, the report analyses interventions to support the caregivers of people with dementia, and the views of people with dementia on diagnostic evaluation and treatment are assessed. Finally, the report provides models for the future organization of related-related services in Denmark and analyses the economics of the diagnostic evaluation and treatment of people with dementia.

www.dacehta.dk

National Board of Health
Monitoring & MTV
Islands Brygge 67
DK-2300 Copenhagen
Tel. +45 72 22 74 00

E-mail: emm@sst.dk
Website: www.dacehta.dk