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– a health technology assessment

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Summary

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Front page: Courtesy S. K. Mohan. Reprinted by permission from Compendium of Onion and Garlic Diseases, 1st edition, 1995, American Phytopathological Society, St. Paul, MN. The photo illustrates an onion plant. Lacquer covered hollow stems from onion plants were earlier used for production of urinary catheters in China.

Summary

Introduction

A number of diseases lead to urinary retention and/or incontinence, which in some cases leads to catheterization using a long-term indwelling urinary catheter (hereafter called urinary catheter). Common for users of these catheters is a need for regular catheter insertion. The patients are catheterized at home, at their general practitioner (GP) and quite a few are catheterized at hospitals in highly specialized urological wards, even though many of the patients already are in contact with both the local home care and their GP. The health care system experiences that patients with urinary catheter has a number of common problems regardless of the reason for the catheterization, and, at present, there exist no evidence based guidelines for an optimized cross-sector treatment for these patients.

The consequence of this is lack of cross-sector collaboration can be experienced as e.g.:

- Difference in quality of treatment. The necessary expertise and routine is not always present
- Lack of use of the LEON principle (using the lowest effective cost level), that is to say the patients receives a treatment at the hospital which could have been provided to them in primary care at a lower cost
- Dissatisfaction in the care system regarding collaboration.

Therefore it is desirable to establish a collaboration model (shared care model) across the secondary sector (hospitals) and the primary sector (local home care and GPs) for patients with urinary catheter.

Purpose

This HTA forms the basis for establishing joint evidence based guidelines for treatment of persons with urinary catheter including guidelines for collaboration across the different sectors in a shared care model for the involved parties.

Method

The analyses are based on a literature review, interviews with patients and staff in the organisations in question, a questionnaire study and an examination of medical records and estimation of costs of catheterization in home care, at GPs and in the highly specialized urological wards, respectively.

Technology

In Denmark, there is no approved and published 'national' guideline for urethral catheterisation. If a locally developed guideline is used for the procedure it is based on the recommendations of 'Danish Standards'. In this HTA, Danish Standards recommendations for use of urinary catheter have been assessed by comparing this to three national guidelines and one European guideline. It can be concluded that there are agreement between the guidelines in several areas but with the following exceptions:

- Wash with water and soap versus sterile wash before the catheterization

- Use of chlorine containing gel where the maximum anti microbe effect is reached after 10 minutes contra a local anaesthetic gel where the local anaesthetic effect is reached after 3-5 minutes.

A review of the primary literature has not given cause for the recommendations by Danish Standards to be changed, because many guidelines are based on laboratory results and have not been tested in clinical trials.

Apart from the above mentioned recommendations Danish Standards gives no guidelines for the required education of the health professionals, nor does it include the patient perspective as Danish Standards only specifies hygienic recommendations.

Unlike the foreign guidelines the recommendations of Danish Standard are not freely available. Therefore the recommendations might not be widely known and thus not applied. A user's fee is charged and this is not expedient from a user perspective.

It is thus recommended that there should be prepared a national guideline for actions in relation to urinary catheterization. The guideline should be public, freely available and for use in both the primary and secondary health sector.

Patient

The user's perspective plays an important role in catheterization. In this HTA eight patients with urinary catheter were interviewed about conditions of importance for their perception of the catheterization. All in all, they were satisfied with the planned catheterizations but they often felt that acute catheterizations were problematic.

The majority of the catheter users wished to continue to be re-catheterized at the same place as they usually have this done. Feeling secure plays an important role for the patients. The catheter users trust that the staff is competent and possesses the skills needed to perform the task even though it is not always the same person that change the catheter. It is of great importance that the staff has knowledge of the individual catheter user and knows the background for the individual patient's use of urinary catheter. A treatment plan with a description of the reason for the persons need for urinary catheter and description of what should be done in case of occurring problems should thus always be kept by the catheter user. If the user or the spouse/partner is capable of managing the daily care of the catheter then information regarding hygienic recommendations should be handed out to them.

As catheterization is an invasive procedure the catheter users demand that the staff has a certain routine in performing catheterization. For an increasing number of re-catheterizations to take place in the primary health care the catheter users wish the staff to be educated and competent in performing the procedure.

Organisation

For the organisational assessment a program evaluation was applied. The evaluation is based on empiric data in the form of focus group interviews with the involved parties, a specification of catheterizations performed in a specialized urological ward during a year and a pilot study based on a number of questionnaires to patients and staff in the home care.

Catheter change is performed in general practice, in the catheter users own home or nursing home or in highly specialized urological wards. Where the catheterization is performed may depend on a specific evaluation or it could be at random and not planned. Problems in connection to the present organisation are that catheterization is not always handled at the lowest efficient cost level. Also there may arise uncertainty regarding the individual patient's treatment with catheter e.g. who is in charge of what. Lack of competence and routine, especially in regard to catheterization of men and in urinary tract diseases such as enlarged prostate and tumour tissue in the lower urinary tract, are barriers to the catheterization being performed in the primary sector. Furthermore, it can be a barrier if relevant catheter materials are not available.

Where the specific catheterization best takes place depends on the condition of the individual patient (e.g. the urinary tract disease and other diseases influencing the patient's mobility) as well as the skills of the health professional and technical conditions. A development towards a coordinated and effective treatment in the form of a shared care program is based on a broad willingness to achieve this, a common understanding of what good quality is, and on shared tools ensuring quality in treatment, collaboration, and coordination on as well a general level as for the individual patient.

Economy

From an economic perspective re-catheterization should be cost-effective, meaning that the treatment is performed at the lowest cost level but at an acceptable quality level. This ensures that catheter users are not re-catheterized in hospital wards if the catheterization could be performed in primary care without lowering the quality.

In the economic analysis the costs of catheter change in the municipal home care units, with the GP's and in specialized urological wards is estimated. This is done to clarify the differences in costs and at the same time various scenarios are used to illustrate the potential savings if the catheter is replaced at the lowest specialized level but at an acceptable quality level.

The analyses were, however, suffering from some uncertainties due to lack of data primarily regarding the number of patients using a urinary catheter. It was estimated that the best source was the study done by Sørbye et al., estimating that the prevalence of +65-year-olds with a urinary catheter in Denmark is 5 percent for men and 0.3 percent for women, which corresponds to approximately 17,700 persons in Denmark using a urinary catheter. Another uncertainty factor in the analyses is that it is not stated where exactly the patients were catheterized. Based on the information from a specialized urological ward and the analyses of the patient data from the National Health Insurance it was estimated that 8 percent of the patients are catheterized at hospitals, approximately 18 percent of the patients are catheterized at their GP and that about 74 percent of the patients are catheterized by nurses in the home care of the municipalities.

If as many patients as possible are re-catheterized in the primary sector and preferably at the local home care level (thereby increasing the estimated percentage from 74 percent), estimates were presented showing the savings potential in moving patients from the secondary sector to the primary sector. Depending on the conditions a savings potential of around 9,8-18,9 mill DKK per year on a national level is estimated, as the costs of replacing catheters is low in the primary sector compared to the costs in the secondary sector. Basis for these savings are that a large number of catheterizations are moved to the home care at the primary level. The potential savings will only become

actual savings if the patients are in fact moved from one sector to another and if the primary sector and the local home care can recruit and allocate staff to this increased activity.

Shared care model

Based on the results in the four chapters on technology, patient, organisation and economy a shared care model has been developed. The model includes a description of which catheterizations that could be performed at which level and specific suggestions to relevant initiatives.

The vast majority of re-catheterizations can be performed in the primary sector. Only in special cases it will be necessary to perform the catheter change at a specialized urological ward. It is estimated that 86 % of all catheterizations can be performed by local home care units /in nursing homes, that 10 percent can be performed in general practice and that the remaining 4 % will need to have their catheterization performed at a specialized urological ward. Uncomplicated catheterizations in mobile patients who are already visiting their GP regularly can be performed by the GP. If the patient is immobile, and is already in contact with the local home care unit or lives in a nursing home, the catheterization can be performed by the home care nursing staff. The complicated catheterizations (e.g. when there is tumour tissue in the lower urinary tract, when there is risk of massive bleeding or via falsa), are best performed in the specialized urological ward. Whether a catheterization is uncomplicated or not depends on as well the present condition of the patient as on the skills of the health professionals and it must therefore be possible to switch between the tree levels. A precondition for the catheter change to be performed in the primary sector is that the staff is educated and competent in performing the procedure.

Recommendations for a shared care model include:

1. Development and implementation of shared guidelines for treatment, including:

- Guidelines for use of urinary catheter and for catheterization
- Consensus regarding differential diagnosis and follow-up
- Agreements for cross-sectorial collaboration and communication regarding the individual patient
- Establishing collaboration that ensures access to the latest knowledge within the area and a uniform treatment.

2. Development and implementation of education programs including knowledge of urinary diseases and treatment with urinary catheter on knowledge level – as well as on the applied level. Education on how to change urinary catheters is offered to:

- Staff at nursing homes and in the municipal home care
- GP's and nurses in medical practice.

In this HTA a proposal for collaboration between hospitals, GP's and home care / nursing homes and specific proposals for a guideline for urethral catheterization, for patient information and for an education program are presented. Also, suggestions for development of joint guidelines for treatment and for contents of the collaboration agreements for the individual patient are presented.

The specific development, testing, adjustment and implementation of the model is now in the hands of the relevant national organisations such as The Danish Urological Society, The Danish College of General Practitioners and The Association of Urology Nurses as well as regional, municipal and local cooperation boards, the municipalities, hospital wards and medical practices.

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