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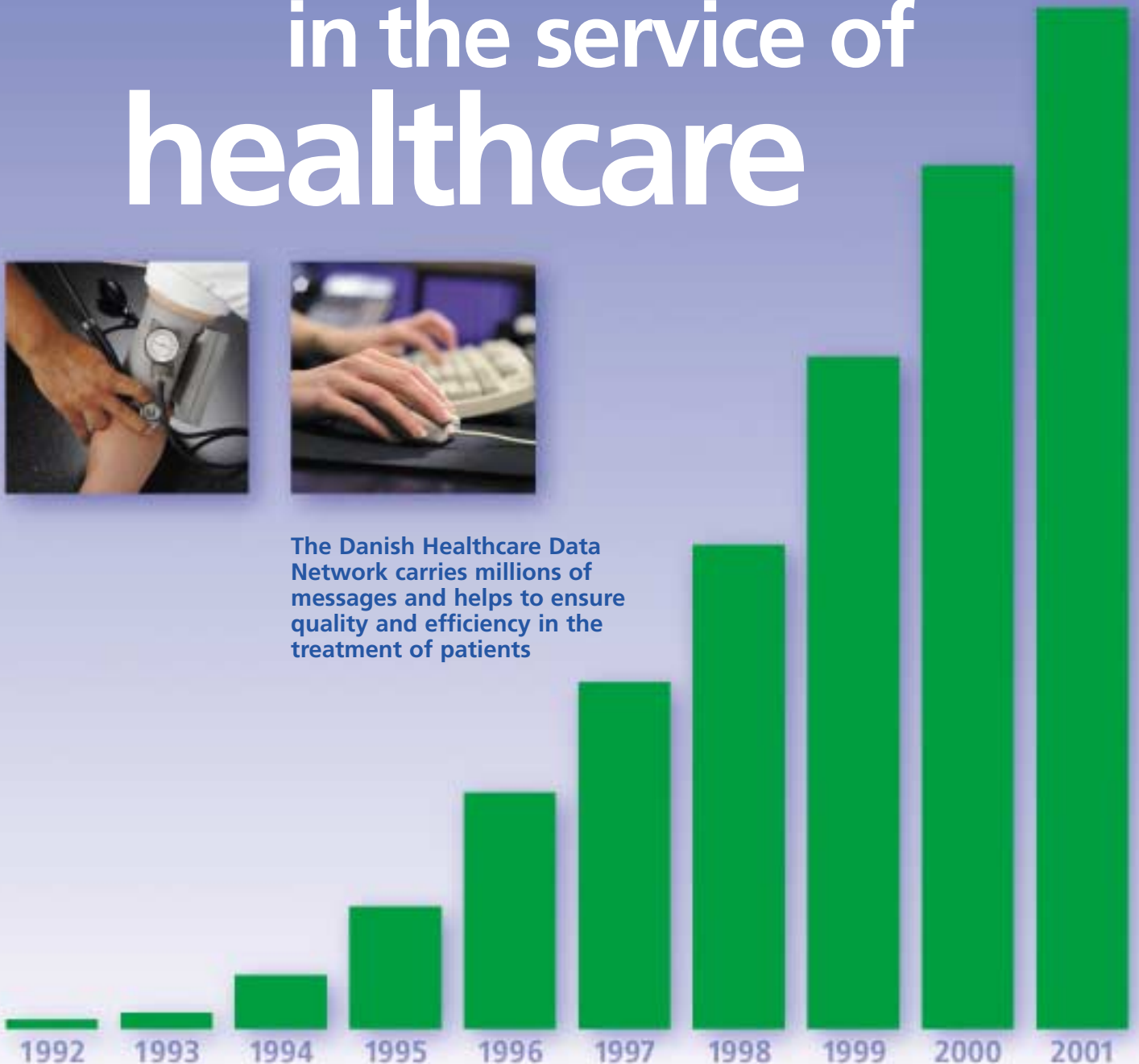
November
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MedCom – the Danish Healthcare Data Network

Data communication in the service of healthcare

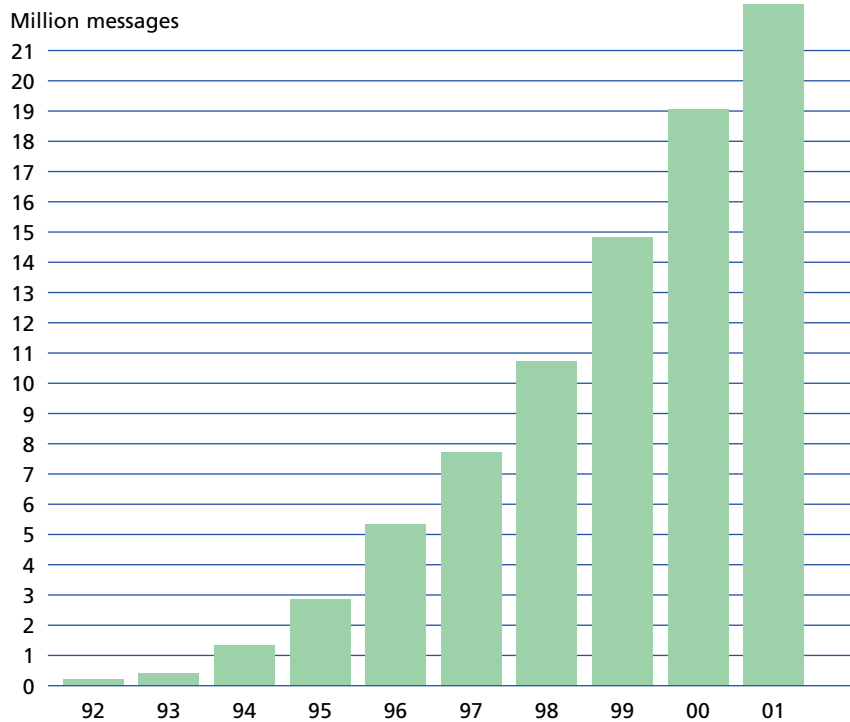


The Danish Healthcare Data Network carries millions of messages and helps to ensure quality and efficiency in the treatment of patients





Dissemination and use of the Danish Healthcare Data Network has risen sharply over the last decade.



Integrated into everyday healthcare

The Danish Healthcare Data Network forms an integral part of the everyday work of the Danish healthcare sector. Every single day, the Network carries many thousands of messages between the parties in the healthcare sector – general practitioners, hospital departments, pharmacies, laboratories, dentists, physiotherapists, occupational therapists and so on.

Constant expansion

The Danish Healthcare Data Network is undergoing consolidation and expansion. An ever increasing share of the communication that takes place in the healthcare sector passes through the Network, and more and more types of messages are being integrated into electronic communication. The most important types of messages in the Danish Healthcare Data Network today are:

- Referrals
- Discharge summaries
- Laboratory results
- Laboratory requests
- Pathology results
- Pathology requests
- X-ray requests
- X-ray results
- Prescriptions



- Microbiology requests
- Microbiology results
- National health insurance bills
- Correspondence

Pioneering spirits took initiative

The first seeds for the Danish Healthcare Data Network were sown in the late 1980s, when some pioneers each saw the opportunities to establish electronic communication.

The first practical trials involved forwarding prescriptions from general practitioners to pharmacies. It was the pioneers who more or less single-handedly conducted the trials aimed at reaping the benefits of the new technology.

The principle of a very high degree of user influence in the development of the Healthcare Data Network was adopted at that early stage. The users define requirements and preferences, after which the technical experts find ways of responding to the users' needs.

Significant benefits

The intention was to achieve rapid and secure forwarding of data, but also to avoid errors. Previously, the same text was read and typed in several times by different people, increasing the risk of errors creeping in. Now the text is typed once and integrated into the recipient's computer system. Higher quality and better efficiency are ensured – two principles that are of paramount importance in the development of the Healthcare Data Network.



Regional networks are building-blocks

The idea caught on. Several communication projects were started, and in the early 1990s the County of Funen became the



first regional authority to commit itself to building up a regional healthcare network.

These regional networks have since taken on the character of building-blocks in the nationwide network. This has been done by ensuring uniform technology and communication standards, so that problems with communication across the regions are avoided.

MedCom pulls the threads together

The MedCom organisation was formed in 1994 to strengthen the development and implementation of the nationwide Healthcare Data Network.

MedCom started as a project organisation with a limited lifetime of three years. The MedCom1 project, which focused on development of the network, was followed by MedCom2, where the focus was on consolidation and expansion. In 1999, MedCom was established as a permanent organisation, but the work continues to be project-oriented, now arranged as two-yearly planning periods.

To every message its EDIFACT

A major element in the construction of the Danish Healthcare Data Network is the international EDIFACT standards. All communication takes place using these standardised messages, and completely unique EDIFACT standards have been developed for each type of message. The standards have been developed in close cooperation between all the interested parties, primarily the users of the Healthcare Data Network.

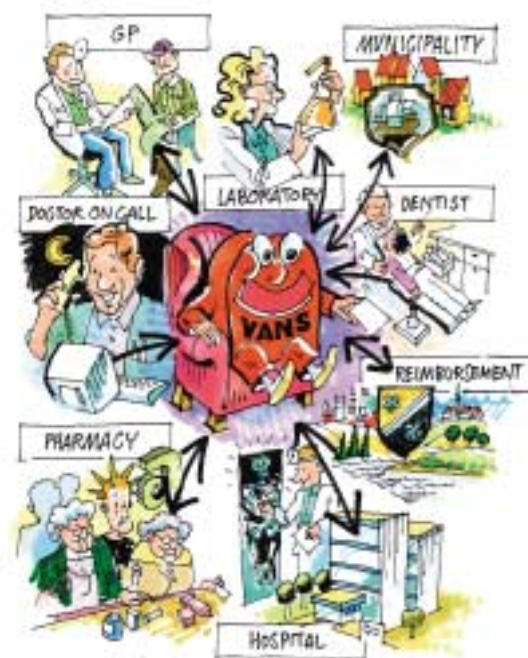
Purpose of MedCom

“The purpose of MedCom is to contribute to the development, testing, dissemination and quality assurance of electronic communication and information in the healthcare sector with a view to supporting coherent treatment, nursing and care.”

Defined in 1999, when the MedCom organisation became permanent

A nation-wide network

The parties behind the permanent MedCom are: The Ministry of Health, The Ministry of Social Affairs, The Danish National Board of Health, The Association of County Councils, Copenhagen Hospital Corporation, Copenhagen and Frederiksberg Local Authorities, The Danish Pharmaceutical Association and Dan Net.



A VANS-based data network

The communication takes place through a VANS-based data network. A telecoms operator makes available a mailbox which stores the sender's messages. From here, the recipients can collect their messages when they wish. The messages are directly integrated into the recipient's computer system.

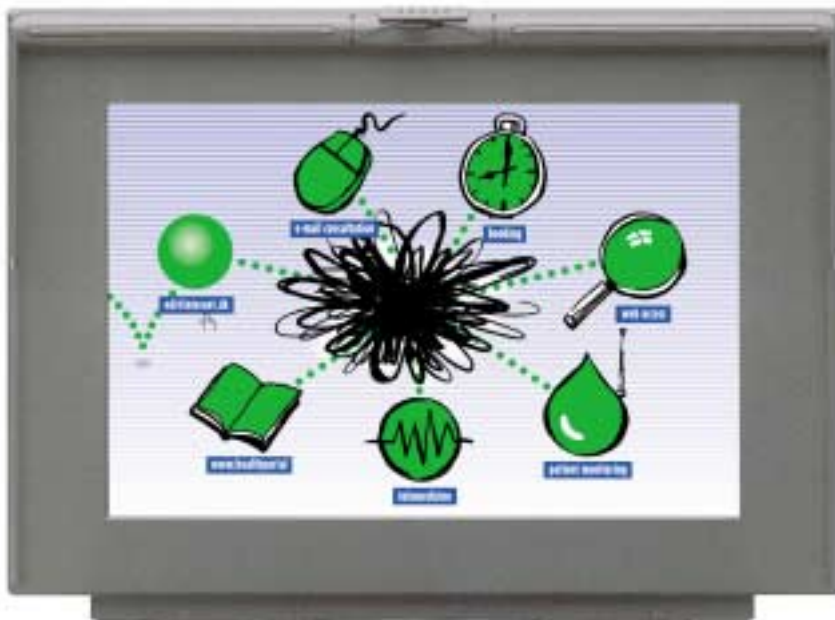
When the general practitioner (GP) sends an electronic referral to the hospital department, this message contains a number of data items relevant to the patient's treatment. These data items are included in the hospital's patient record and used throughout the course of treatment.

The discharge summary from the hospital department to the GP similarly contains data on the treatment that the patient has received and the need for follow-up, rehabilitation etc. Data from the discharge summary are automatically integrated into the GP's own patient record.

Construction of a market

The Danish Healthcare Data Network and the software linked to the use of the Network by the Health Service parties are the direct result of a user requirement. At the outset there was no market for the required software, although a number of software companies had specialised in doctors' systems and/or hospital systems.

A very important aspect in the construction of the Healthcare Data Network has therefore been the development of this software in close cooperation between users, MedCom and software suppliers. The individual system solutions have been tested one step at a time before being disseminated.



In the healthcare network of the future, communication will take place via the Internet and take many different forms.

Knowledge and motivation pave the way

The actual implementation of the Healthcare Data Network has been given high priority throughout the development process. All the individual players in principle decide for themselves whether a connection is to be made to the Network and to what extent this connection is to be used. This requires information, motivation and training.

In many cases there is also a need for actual organisational changes in order for a paper-based organisation to make the most of the new technology. In many areas the implementation of the Healthcare Data Network has prompted a review of old routines and the introduction of more flexible and efficient procedures.

Today, the Healthcare Data Network is disseminated to 3500 parties throughout the Danish healthcare sector and it is merely a question of time before the dissemination level reaches 100%. Some 60% of communication in the sector as a whole already takes place through the Healthcare Data Network.



Healthcare Data Network of the future under development

The consolidation of the Healthcare Data Network is continuing along three main lines:

Dissemination. Work on optimising dissemination and use of the Network will continue through information and training.

Expansion. The Healthcare Data Network is being continuously expanded by the addition of new facilities. One of the latest examples is the "clinical e-mail", which makes it possible for non-standardised messages to be communicated in a standardised form. This may, for example, involve supplementary messages which the general practitioner (GP) forwards subsequent to a referral for hospital treatment, or it may involve question about the medication of patients admitted as emergency cases, which the hospital sends to the patient's own GP.

On the way to the Internet. The third line of development is paving the way for the Internet-based healthcare communication of the future. The Internet offers almost unlimited potential for internal communication in the healthcare sector and for communication between users and the public in general. This communication will include the familiar EDIFACT-based messages, but also many new forms of communication, such as videoconferencing, booking and on-line look-up of patient data in external databases. These are forms of communication that are, indeed, already on the way.

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