Therapy Data Management System
Data acquisition, data management and quality assurance as an integrated solution
Computer aided systems are able to support physicians and nursing staff of a dialysis unit in their daily routine work. This support in the field of dialysis is more and more common, because it is surely no secret that on one hand the number of dialysis patients is increasing steadily and on the other hand it is the duty of dialysis centres to guarantee the same very high standard of dialysis treatment to all patients.

Several factors drive the need for information technology in today’s renal care. The increase in the number of patients is one point, but it is also a fact that the number of older patients is rising continuously, who in return need more direct patient care.

In addition to the before mentioned points in various countries the dialysis treatment has to satisfy laws and regulations that should guarantee for every patient the same high standard of treatment quality. The obligation to document a higher amount of parameters for every single dialysis treatment supports this fact.

The pressure to achieve better health, administrative and process outcomes leads also to higher cost awareness in dialysis units.

Recapitulating all these points indicate that in the future the daily work load for every physician and nurse in the dialysis unit will increase, but how can we solve this problem and how can Fresenius Medical Care assist dialysis units to solve this problem? The answer is easy: through a computer aided – Therapy Data Management System – which provides every user with the right working tool to empower the workflow in a dialysis unit.

This is the reason why, for many years now, we have been working side by side with caregivers in the field to create online data acquisition and management systems. We developed these tools paying close attention to you and your needs. The result of this work is a complete integrated solution to assist caregivers involved in renal care.
Our Solution
The Therapy Data Management System to empower your workflow

Seamless workflow from dialysis device to quality assurance

The Therapy Data Management System is a seamless link between the worlds of dialysis and information technology. The coherent workflow system integrates all relevant areas and provides all professionals in a dialysis unit with the needed working tool. We have for that, these software applications:

- Therapy Monitor
- Therapy Manager
- Therapy Manager reporting functionalities
Our Therapy Data Management System
A short overview – the different components of the whole system

Therapy Data Management System

Our Therapy Data Management System consists of the following main software components with their own specific functionalities:

- the Therapy Monitor for online data acquisition and monitoring of the ongoing treatments
- the Therapy Manager for the data management and the quality assurance.

The Therapy Monitor is responsible for collecting the online data from all the connected medical devices and for supervising the actual treatments.

The Therapy Monitor can be connected to the Therapy Manager. This means that via this interface a bi-directional data exchange takes place: For example the patient individual prescription data is before the dialysis treatment sent from the Therapy Manager via the Therapy Monitor to the dialysis device. After the dialysis treatment all the collected online data from the Therapy Monitor is transferred back to the Therapy Manager. Of course the user has always the opportunity to input additional data for documentation purposes manually either into the Therapy Monitor or into the Therapy Manager.

For the part of the quality assurance the user has the opportunity to use a wide range of reporting functionalities within the Therapy Manager.
**Our Therapy Data Management System**

**The Therapy Monitor**

- The Therapy Monitor is our solution for online data acquisition of various data that can be collected before, during and after dialysis, e.g. from dialysis devices, scales and analysis devices.

- A tailored workplace – you know best what you need as your optimum workplace, what you need and what you don’t need for the perfect workflow. With the Therapy Monitor you have all information at one glance and a plenty of opportunities to configure the workplace related to your demands, e.g. adaptation to your workflow or presentation of graphs.

- A quicker and more accurate data acquisition – the comprehensive collection and channelling of the most important treatment data of the connected medical devices, the entries made by the nursing staff and the pre-adjustment of the dialysis devices 4008 and 5008 offers a substantial advantage resulting in a quality improvement of renal replacement therapy.

**Learn for one, use for all.**

The Therapy Data Management System is a system that is absolutely easy to learn and to use, because it has uniform operating controls for the different software applications. This means that there is nearly the same graphical user interface and one corporate user philosophy in the different software applications.
Our Therapy Data Management System

The data Xchange panel

data Xchange panel

With the data Xchange panel we establish a complete new form of bedside monitoring. With the help of the bi-directional use of the 5008 Therapy System in connection with the Therapy Monitor the following features are available during the dialysis treatment:

- sending of messages
- executing of a free configurable task list
- documentation of given medication
- documentation of events in combination with actions

Of course an user administration for these before mentioned transactions is integrated into the data Xchange panel.

Via the interaction between the 5008 Therapy System and the Therapy Monitor through the data Xchange panel certain activities can be entered in a very comfortable way at the 5008 Therapy System and will automatically be documented in the Therapy Monitor and also in the connected data management system (Therapy Manager) for long term storage.
Our Therapy Data Management System

The Therapy Manager and its reporting functionalities

Therapy Manager

- The Therapy Manager is the database and the heart of the whole system – the whole data management is carried out here and of course for an efficient data exchange there is a link between the Therapy Monitor and the Therapy Manager.

- A way to administrate patients – administrative activities definitely play a crucial role when it comes to managing a dialysis unit. With the Therapy Manager you can administrate basic patient information as well as the medical history of a patient.

- A way to manage treatment outcome – the Therapy Manager helps you to collect and analyse a wide range of medical data in assisting you and among other things, in defining the different and appropriate treatment regimes for each patient.

- A way to present results – with the Therapy Manager you have fast access to all information in the most comprehensive way. Providing access to such complete and up-to-date data allows an easy and fast summary of existing data.

Reporting functionalities of Therapy Manager

- For the part of the quality assurance you can use a wide range of reporting functionalities within the Therapy Manager.

- On one hand you can use standard reports, e.g. clinic, patient or staff related reports.

- On the other hand you can create your own tailored reports for data presentation, for example the comparison of given medication with lab results of the patients. The results are impressive: you will get the most out of your data.
Our System
Data acquisition, data management and quality assurance as an integrated solution in a modular design

Customise your workplace to your needs – flexibility and a broad spectrum of applications.

The Therapy Data Management System is a combination of hardware and software components to realise the link between the worlds of dialysis and information technology. The modular design provides you with a modern, state-of-the-art electronic data processing system, which can be adapted and expanded to meet the requirements of each individual dialysis unit.

Our goal is to provide you with an open and flexible hardware and software architecture, which allows a multitude of options to combine with other solutions, such as hospital information systems, and a possible future expansion and new developments.

For that we are using standardised hardware interfaces for our dialysis devices 4008 and 5008 as well as for other peripherals, e.g. scales or blood gas analysers, which can be easily integrated in industrial network technologies.

Also our software architecture is based on standards, such as MS-SQL for the database part and HL7 as a data exchange format to hospital information systems or laboratories.

Our PatientCard is an integrated part of our user philosophy. The PatientCard makes the work with our Therapy Data Management System easy and safe.

2 according to our technical specifications
Our System
Your benefits

Continuous quality improvement through advanced clinical data management – our Therapy Data Management System – will help you in your effort to deliver better patient outcomes by providing valuable clinical and therapy information in an easy-to-use format:

- Support in planning and organisation of day to day activities in a dialysis unit.
- Supporting the increase in efficiency in a modern dialysis unit by automating work-intensive and time-consuming activities.
- Easy, fast and targeted access to all relevant treatment data for further data processing e.g. to doctors lettering, statistical evaluations or clinical studies.
- Support in supervision and correction of planned activities in correspondence with medical and financial aspects.
- Current information available for all users.
- Speeding up your work and make the entire process much more economic and efficient.
- Modular designed and flexible system for easy and unlimited growth.
Bibliography

Man or Machine?
One unit’s experience of automated data acquisition
EDTNA-ERCA Volume XXI Nr.1
1995

British Renal Symposium
September 1996

Network connection in a medical environment
Chiron Diagnostic News
Issue 2
October 1996

Handbook of Medical Informatics
Springer Heidelberg
1997

Hemodialysis for Nurses and Dialysis Personnel
Sixth edition
1999

The key to the system
Dialysis actual 8/2001
Publishing house Conzema
2001