


Conference Theme

Global Approach to Renal Care Innovation-
Balancing Compassion and Health Technologies



The challenge of central venous catheters – How to ease our work?

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Presentation outline

1 Introduction

2 Objectives

3 Methods

4 Results

5 Conclusion

- **Through thorough analysis of Nursing workflow the following important aspects related to the use and management of Central Venous Catheters have been identified:**
- the connection and disconnection procedures of the central venous catheter patients are one of the most serious bottle necks of daily activities during a shift caring for patients
- the number of movements nurses must do to collect the diversity of materials needed to complete these tasks is quite high
- the number and variety of materials needed are significantly higher than in any other vascular access connection and disconnection procedures

Introduction

- **A more in depth analysis revealed:**
- materials are stored usually at a significant distance from the point of use
- in the majority of the cases the routine increases the probability of forgetting materials or disposables specially indicated for a single treatment or due to a special situation, which raise risks of unintended interruption of the procedure
- overall, irrespective proper preparation, the connection and disconnection procedures when the vascular access is a central venous catheter are always the most time consuming, even when treating patients with no complications of the access

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Objectives

- **To develop, test and release a safe “ready to use” set to reduce the nurses’ workload, improving safety and reducing risks of infection when performing connection and disconnection procedures on patients with central venous catheter vascular access**
- reduce movements
- reduce time needed to collect the materials
- predict and ensure all needed consumables for the procedure are available in one sterile kit
- increase the standardisation of the procedure and reduce errors by having the items ordered in the kit in a way that ensures the steps of the procedures are followed as per established guidance

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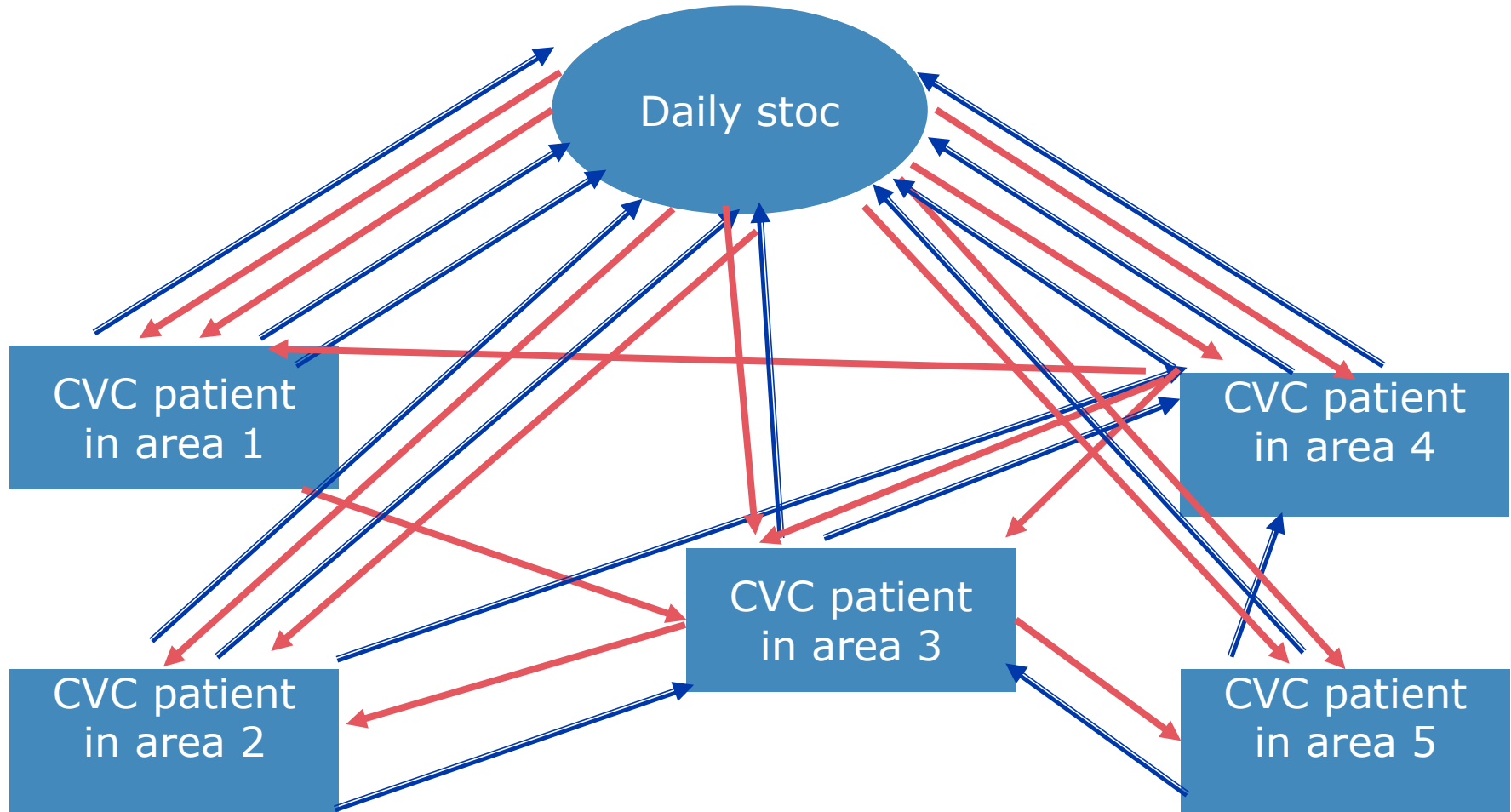
5 Conclusion

- **Establish a unique guidance for all centres and countries in a large international dialysis centres network**
- establish a clear process for both, the connection and disconnection procedures, for central venous catheters patients
 - develop the procedures
 - test the procedures in different settings
 - validate the procedures
 - release the procedures
 - develop the correspondent kit to support the procedures
- create awareness and provide support to implement both the procedures and the ready to use kit

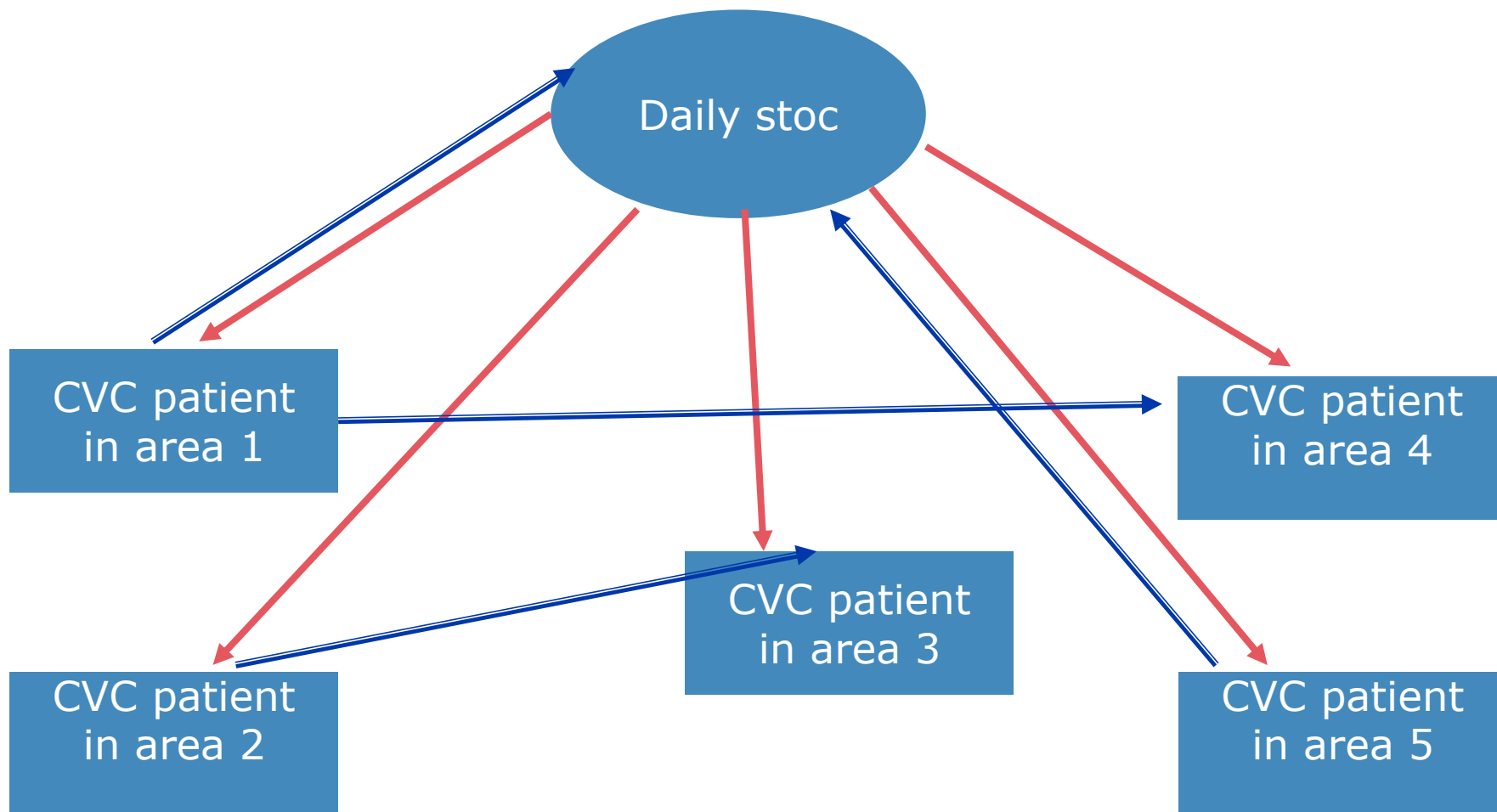
- **Through the means of an implemented and regularly audited quality system, implement the developed procedure all across the network**
- support the translation and gap analysis for the procedure in all countries members of the network
- in case of regulatory incompatibilities, support the countries in release the adapted procedures
- deploy the developed connection and disconnection sterile kit and support the training for all nursing staff in the clinics

- **The standardised procedure is the mean and support to show the advantages of the new created set and its added value; an analysis was conducted with several aims:**
- to evaluate the effort, time consumption and risks of using separate materials versus a pre-defined, ready to use set for the mentioned procedures, according to quality controlled documents
- to evaluate the changes in nurse workload by developing a “spaghetti diagram” before and after introducing the “ready to use” sets
- to have also an overview on the patient safety status quo and further potential improvements

Before introducing the ready to use kit



After introducing the ready to use kit



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- **The implementation of the “ready to use” sets had reduced 25% of the movements needed to collect the material needed for each central venous catheter connection and disconnection procedure**
- all regular materials needed for the procedures are included in the set
- the set is developed in a way that ensures various scenarios of procedures in the countries (in alignment with regulatory and economical requirements)
- reducing the procedure time could be reached as all material needed was available in dedicated packages for each procedure.
- **Nurses and patients perceived the improvement in safety while working with sterile material.**

- **Further analysis showed that compensation of development and replacement costs will be possible within a three year period.**
- working with corporate suppliers for 80% of the network's needs would result in very low production costs meaning savings of up to 30% are expected over the three year implementation period.
- **Overall, the effort of development and implementation of a standardised procedure, using a dedicated standardised kit for performing it, has been successfully paid of with the buy in of the nurses adhering to the procedure and embracing the standardised means and methods of work**

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Conclusions

- **Development of predefined sterile connection and disconnection sets had a positive impact on nursing activities by**
 - reducing the time needed to collect materials needed for the procedures
 - adding safety to the operations
 - allowing standardization of procedures and materials used across a large international dialysis network, assuring that the patients are treated with the same care, professionalism and quality everywhere

**Thank You Very Much
for Your Attention!**

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