

# Clinical variance reporting tool to promote patient safety culture within dialysis clinics

Authors: Corina Popescu<sup>1</sup>, Mihai Preda<sup>1</sup>, Cristina Miriunis<sup>2</sup>, Maria Teresa Parisotto<sup>2</sup>

<sup>1</sup>Fresenius Medical Care, NephroCare Clinical Coordination, Bucharest – Romania

<sup>2</sup>Fresenius Medical Care, Nursing Coordination, Bad Homburg - Germany

## Introduction

A clinical variance reporting tool has been in use in our dialysis centres network since 2007.

In order to improve the patients' safety, it was essential that the healthcare personnel adopted a fair and open culture when it came to reporting any variance which occurred in the clinic before, during or after the dialysis treatment.

## Objectives

Develop and uphold a safety culture and prevent injury and/or illness, by using the clinic variance reporting tool within all dialysis clinics of the Romanian network.

## Methods

We performed a prospective cohort study of reported variances using the online variance reporting system.

All reported variances, recorded in the online reporting system from 2012 to 2015 have been compared. The clinical variance report used is a computer based tool implemented in all dialysis centres of a network.

The tool is mainly used to monitor all clinical variances, identify the level of patient harm and initiate root cause analysis to identify corrective and preventive actions.

Three most prevalent intradialytic complication have been identified as being interrelated: muscle cramps, intradialytic hypotension (IDH) and headache.

## Results

Case by case, specific care and actions to control the patient and dialysis factors related to IDH have been applied: regular objective assessment of dry weight (using the body composition monitor), patient education, blood pressure and ultrafiltration (UF) control, sodium profiles, antihypertensive drug control and prescription. During the analysed period, while using the incident reporting tool, the number of incidents has decreased despite of a rise in the number of patients undergoing the treatment, from 40,173 incidents in 2012, to 35,485 in 2013, to 28,861 in 2014 and to 27,700 in 2015. Hypotension episodes, muscle cramps and headaches are the main categories with substantial reductions due to the variance management at clinic level.

## Conclusion

Increasing the clinical variance reporting can contribute to improving patient safety.

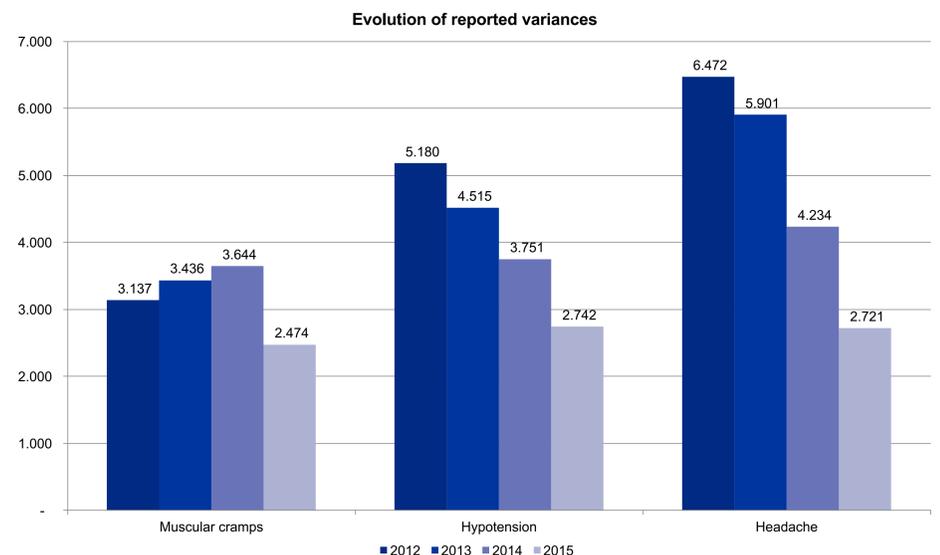
The IDH defined as a decrease in systolic blood pressure by  $\geq 20$  mmHg from pre-dialysis blood pressure, can be associated with various symptoms including muscular cramps and headache, symptoms that affects the patient's well-being and can induce cardiac arrhythmias, predisposing to vascular access thrombosis, coronary and/or cerebral ischaemic events.

Our goal is to find and review the causes and approaches for treatment related variances, fostering in the same time the nurses' expertise and patients' knowledge and compliance in order to improve patients' quality of life.

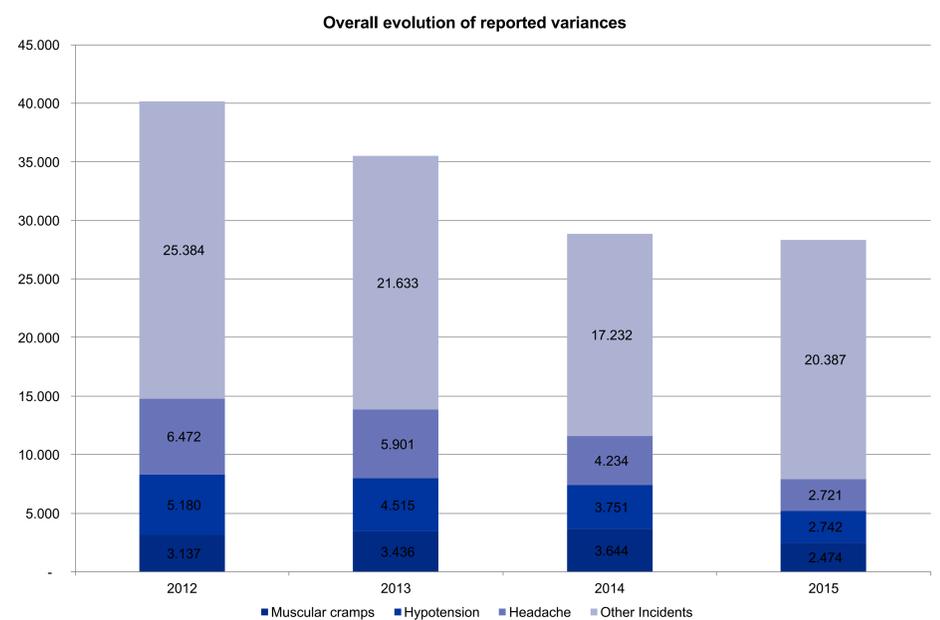
A safety culture should be part of the organizational culture and be understood and accepted as being something of high priority because it may enhance patients' overall recovery chances by preventing the variances from recurring.

## References

1. NKF KDOQI Guidelines



## Evolution of reported variances between 2012-2015



## Evolution of the three most prevalent variances 2012-2015

### Factors related to IDH Treatment

#### Patient - Related Factors:

- Assess and maintain dry weight as close to the target as possible. May need some means of objective as cases.
- Counsel and educate patients to minimize interdialytic weight gain.
- Discontinue antihypertensive medications prior to the scheduled dialysis.
- Avoid the use of long-acting vasodilators.
- Avoid eating just before or during the treatment session.
- Evaluate by echocardiography to rule out valvular or pericardial disease and left ventricular systolic and diastolic function.

#### Dialysis-Related Factors

- Avoid aggressive ultrafiltration to achieve the preconceived dry weight;
- Consider the use of isolated UF, UF or sodium modelling to achieve the desired dry weight.

## NKF KDOQI GUIDELINES recommendations for IDH