

**November 2011** 

# A Position Statement by the Paediatric Nursing Associations of Europe (PNAE)

**Konstantinos Petsios** 

RN,MSc,PhD

President of HNA's Pediatric Sector

**Lecturer in Paediatric Nursing** 

National & Kapodistrian University of Athens



# Scope

 The purpose of this position statement is to identify key concepts concerning medication errors in children, to describe the current status or reporting systems in European level and to share measures aimed at reducing medication errors among different European countries.



## PARTICIPATED COUNTRIES

## Austria

Martha Böhm (President) Professional Organisation of Paediatric Nurses

## Belgium

Bangels Anne-Marie (President of Pediatric Nurses) NVKVV

## Croatia

Dragica Bestak (President of Pediatric Nurses) Croatian Nurses' Association

## Serbia

 Dijana Otašević (President of Pediatric Sector) Association of nurses, medical technicians and midwifes of Republic of Serbia

## Slovenia

Majda Oštir (Member of Pediatric Sector) Nurses and Midwives Association of Slovenia

## Switzerland

 Schlüer Anna-Barbara (Nursing scientist + clinical nurse specialist) Schweizerischer Berufsverband für Krankenpflege SBK

## Greece

Petsios Konstantinos (President of Pediatric Sector) Hellenic Nurses' Association

## The Netherlands

M Van Haken (President of Dutch nurses pediatric section) Dutch Nurses Association

## United Kingdom

+ Fiona Smith (Adviser in Children and Young People's Nursing) RCN

## REPORTING AND RECORDING SYSTEMS

Does your country have an official national record of all medication errors?

### + Yes

- × Switzerland
- × United Kingktom
- × Belgium (Under development)

## + No

- × Austria
- × Slovenia
- × Serbia
- × Croatia
- The Netherlands (Many hospitals have their own reporting system)

Turkey

No National

Record

- Greece (Many hospitals have their own reporting system and there is
   a national drug organisation that keeps records of all drug side
   effects nationally)
- Factors influencing reporting of medication errors

 What measures have been introduced in your country to reduce medication errors?



- Draft Policy Statement was formed
- PNAE members:
- Sent comments concerning the content of the policy statement

## Ranked

- Appendix 1: Factors influencing reporting of medication errors
- Appendix 2: Measures taken to reducing medication errors

## Analysis of the collected data

Factors influencing reporting of medication	Corbin	Curadan	Croatia	ltalu	ш	The	Austria	Dolaium	Clavania	Granca	Coore
errors	Servia	Sweden	Croatia	Italy	UK	The	Austria	beigium	Slovenia	Greece	Score
						Netherlands					
1. Ease of reporting mechanisms		1	1	1	1	1		1	1	1	8
2. Awareness of reporting mechanisms	1		1		1	1	1				5
3. Concerns re penalisation for reporting					1		1			1	3
Recognition of drug error including what constitutes a medication error			1	1	1			1	1		5
constitutes a medication enor											
5. Anonymity						1	1				2
6. Education level of nurses	1			1					1	1	4
7. Blame culture		1					1			1	3
8. Patient safety focus	1	1	1		1	1		1	1	1	8
9. Workload and staffing levels	1		1	1							3
10. Patient harm	1	1									2
11. Responsibility level of nurses							1	1	1		3
12. Hospital policies		1		1		1		1		1	5

# Final Rank

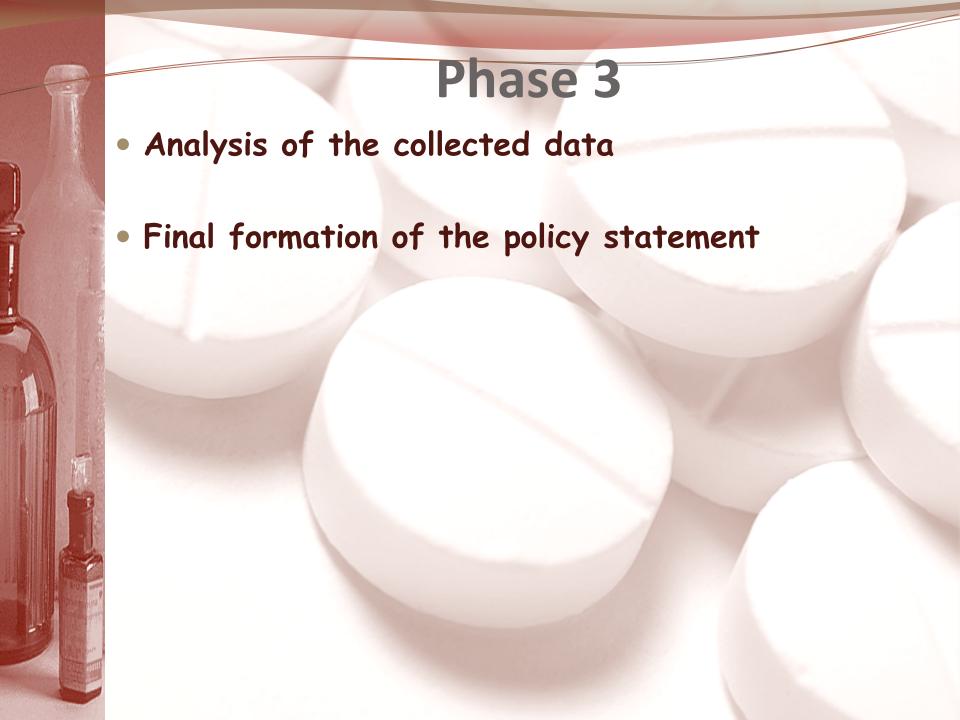
Factors influencing reporting of medication	Serbia	Sweden	Croatia	Italy	UK	The	Austria	Belgium	Slovenia	Greece	Score
errors						Netherlands		_			
1. Ease of reporting mechanisms		1	1	1	1	1		1	1	1	8
8. Patient safety focus	1	1	1		1	1		1	1	1	8
2. Awareness of reporting mechanisms	1		1		1	1	1				5
4. Recognition of drug error including what constitutes a medication error			1	1	1			1	1		5
12. Hospital policies		1		1		1		1		1	5
6. Education level of nurses	1			1					1	1	4
3. Concerns re penalisation for reporting					1		1			1	3
7. Blame culture		1					1			1	3
9. Workload and staffing levels	1		1	1							3
11. Responsibility level of nurses							1	1	1		3

Measures taken to reducing medication errors	Serbia	Sweden	Croatia	Italy	UK	The Netherlands	Austria	Belgium	Slovenia	Greece	Score
Standards for drug and infusion storage, preparation and sustenance	1	1	1	1	1			1	1	1	8
4. Policies and protocols for single and double checking	■ Ite	ems 1	to 3.1	wer	e c	onsider	ed to	be a	single	item	6
5. Different levels of control before the drug administration		ı	J			_				_	5
6. Drug documentation by two nurses											0
7. Systematic control of expiry date								1			1
8. Different coloured syringes for IV and oral medications	1	1		1	1	1	1	1	1		8
10. Streamlining type of infusion devices used within hospital settings											0
11. Control of home medication (parents will bring them to the hospitals)											0
12. Barcode Medication Administration System and/orbracelet identification and systematic control right patient	1	Ite	em 17	wa	s n	nerged v	with	item :	12		5
13. Checklists for medication administration							1			1	2
14. PICU-specific, high-alert medications list			1								1
15. Identification of all drug prepared for the children								1			1
16. Improvements in labelling and packaging of medication			1								1
18. Introduction of single use medication devices, safer connection devices						1					1
19. Alert system - electronic administration		1	1								2
20. Wearing of red tabard to reduce interruptions and distractions	1			1	1						3
21. Paediatric prescription awareness											0
22. Medication audit trails											0
23. Drug preparation by specialists (Ward and unit based pharmacists)	1		1								2
24. Evaluation of health professionals' ability to calculate doses				1			1				2
25. Creation of learning organisation culture		It	em c	wa	is r	nerged '	with	item	26		0
26. Education and training (specific education for nurses caring for neonates and children) and for use of infusion devices	1				1	1	1		1	1	6
27. National/International alerts, directives, tools and guidance	1										1
<ol> <li>Posters to educate patients and visitors not to interrupt the nurse when preparing or administer drugs</li> </ol>											0
29. Safety conferences											0
30. National record of drug effects			1						1	1	3

.

# **Final Rank**

Measures taken to reducing medication errors	Serbia	Sweden	Croatia	Italy	UK	The Netherlands	Austria	Belgium	Slovenia	Greece	Score
1. Standards for drug and infusion storage, preparation and sustenance	1	1	1	1	1			1	1	1	8
8. Different coloured syringes for IV and oral medications	1	1		1	1	1	1	1	1		8
4. Policies and protocols for single and double checking	1		1	1			1	1		1	6
26. Education and training (specific education for nurses caring for neonates and children) and for use of infusion devices	1				1	1	1		1	1	6
12. Barcode Medication Administration System and/or bracelet identification and systematic control right patient	1				1	1		1	1		5
5. Different levels of control before the drug administration	1			1		1			1	1	5
			1		1				T		
20. Wearing of red tabard to reduce interruptions and distractions	1			1	1						3
30. National record of drug effects			1						1	1	3
13. Checklists for medication administration							1			1	2
19. Alert system - electronic administration		1	1								2
23. Drug preparation by specialists (Ward and unit based pharmacists)	1		1								2
24. Evaluation of health professionals' ability to calculate doses		_		1			1	_	_	_	2





# Paediatric and Neonatal Medication Errors A Position Statement by the Paediatric Nursing Associations of Europe (PNAE)

## Paediatric and Neonatal Medication Errors

A Position Statement by the Paediatric Nursing Associations of Europe (PNAE)

## Scope

The purpose of this position statement is to identify key concepts concerning medication errors in children, to describe the current status or reporting systems in European level and to share measures aimed at reducing medication errors among different European countries.

## Introduction

Patient safety has become the preeminent issue for health care. The prescribing, dispensing, and administration of medications represent a substantial portion of the preventable medical errors that occur with children and that children are more at risk for medication errors than adults. The Paediatric Nursing Associations of Europe Network (PNAE) conducted a survey throughout 2010. The aim was to identify common practise concerning medication errors among different European countries and to share measures aimed at reducing medication errors.

## **Background**

Potential adverse drug events due to medication errors occur up to three times more frequently in paediatric than in adult wards. (Miller, Robinson, Lubomski, Rinke, Pronovost, 2007). Medication errors may result in morbidity, mortality, increased monitoring and cost of care, and delayed hospital discharge. Nurses are the key participants in the preparation and administration of medication. During their training, nurses are taught the Six Rights of medication administration, which are: giving the right medication in the right dose at the right time via the right route to the right patient with the right documentation (Raja Lope, Boo, Rohana, Cheah, 2009). Nevertheless, medication errors are a multidisciplinary problem and a multidisciplinary approach is required in order to reduce the incidence of errors. Interdisciplinary collaboration is required for a rationalism of medicine errors through the creation of a new frame of health systems' operation and continuous education. (O'Shea, 1999).

Looking at error reporting systems, it is clear that each step of the medication process is error prone, although the majority of research has focused on prescribing errors. Each step (prescribing 3–37%, dispensing 5–58%, administering 72–75%, and documentation 17–21%) contributes to the overall rate of medication errors among children (King et al, 2003; Frey et al, 2002). Literature acknowledges that both active failures and latent conditions remain prevalent. Active failures often display themselves in the form of incorrect drug calculations, lack of individual knowledge, and failure to follow established protocol. Latent conditions are evidenced as time pressures, fatigue, understaffing, inexperience, design deficiencies, and inadequate equipment (Carlton, Blegen, 2006).

Nowadays, medication error research has shifted in emphasis toward identification of system problems inherent in error occurrence with emphasis placed on more dependable reporting measures through which nurses are not threatened by reprisal (Carlton, Blegen, 2006). The vast majority of errors result in no harm, or have only very minimal temporary effects. These types of errors represent very important opportunities to identify systems' weaknesses and institute improvements before serious harm occurs. There is a need for a National System of report that would make possible the recording and analysis of errors. Open reporting of medication errors must be encouraged since voluntary error reporting is at the heart of any safety improvement strategy (National Patient Safety Agency, 2007).

## **Definition of errors**

Medication errors are defined as "any preventable event that may cause or lead to an inappropriate medication use or patient harm while in the control of the health care professional, patient or consumer" (NPSA, 2005).

Such events may be related to professional practice, health-care products, procedures and systems, including prescribing; order communication; product labelling, packaging and nomenclature; compounding; dispensing; distribution; administration; education; monitoring and use'.

Key areas encompassed within the survey included gathering information about

- Reporting and recording systems
- Factors influencing the reporting of medication errors
- Measures taken to reduce medication errors

## Reporting and recording systems

The survey found that some countries had introduced a national recording and reporting system. These included the Switzerland and the United Kingdom. Countries like Belgium reported that a system was currently under development. Other countries reported that individual hospitals had a reporting system in place.



## Factors influencing reporting of medication errors

The most important factors as ranked from PNAE members with a direct effect on the reporting of a medication error, based on their national records, research data and/or experience, were:

- Ease of reporting mechanisms
- Patient safety focus
- Awareness of reporting mechanisms
- Recognition of drug error including what constitutes a medication error
- Hospital policies
- Education level of nurses

Nevertheless, the effect of other factors such as concerns or fear for re-penalisation, the "Blame culture" and fear of "stigmatisation", along with the workload and low staffing levels and the different responsibility level of nurses, were also acknowledged.





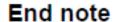
## Reducing medication errors

The most important measures that must be implemented in order to reduce medication errors as ranked by PNAE members, based on their national experience and a thorough literature research were:

- Standards for drug and infusion storage, preparation and sustenance
- Different colored syringes for IV and oral medications
- Policies and protocols for single and double checking
- Education and training (specific education for nurses caring for neonates and children) and for use of infusion devices
- Barcode medication administration system and/or bracelet identification and systematic control of the right patient
- Different levels of control before the drug administration

Moreover, a number of specific measures that were already implemented in some countries led to an important decrease of medication errors. The most important of these measures included the wearing of red tabard to reduce interruptions and distractions during medication process, drug preparation by specialists (Ward and unit based pharmacists), the implementation of a national record of drug effects, specific checklists for medication administration and special alert systems or even electronic administration. The systematic evaluation of health professionals' ability to calculate doses was also stressed.





This document represents a consensus position of the organisations representing paediatric nurses across many European countries (PNAE\*). PNAE strongly recommends that all European countries should give consideration to these findings and they can use them for implementation.

(<a href="http://www.rcn.org.uk/development/communities/specialisms/children\_and\_young\_people/for\_ums/other-forums-and-groups/paediatric nursing associations-of-europe">associations-of-europe</a>).

## Useful websites for further information include:

http://www.npsa.nhs.uk/nrls/medication-zone/ www.nmc-uk.org www.rcn.org.uk

## Key stakeholders

Professional nursing association/organisation in each member state EU and individual governments of member states

**EFN** 

FePI

HOPE

1 December 2011

## References

- Raja Lope RJ, Boo NY, Rohana J, Cheah FC. A quality assurance study on the administration of medication by nurses in a neonatal intensive care unit. Singapore Med J. 2009 Jan;50(1):68-72.
- Miller MR, Robinson KA, Lubomski LH, Rinke ML, Pronovost PJ. Medication errors in paediatric care: a systematic review of epidemiology and an evaluation of evidence supporting reduction strategy recommendations. Qual Saf Health Care. 2007 Apr;16(2):116-26.
- Frey B, Buettiker V, Hug MI, et al. Does critical incident reporting contribute to medication error prevention? Eur J Pediatr 2002;161:594–9.
- King WJ, Paice N, Rangrej J, et al. The effect of computerized physician order entry on medication errors and adverse drug events in pediatric inpatients. Pediatrics 2003;112:506–9.
- O'Shea E. Factors contributing to medication errors: a literature review. J Clin Nurs. 1999
   Sep; 8(5):496-504.
- The National Patient Safety Agency. Patient safety. Arch Dis Child 2005;90:226-228
- Carlton G, Blegen MA. Medication-related errors: a literature review of incidence and antecedents. Annu Rev Nurs Res. 2006;24:19-38.
- National Patient Safety Agency. Safety in doses. Medication safety incidents in the NHS. Fourth report from the patient safety observatory, 2007. London.



- Analysis of the collected data
- Final formation of the policy statement
- Discussion on content during Belgrade meeting
- PNAE members feedback until 1st December 2011
- Distribution of the policy statement



Feedback Deadline

1st December 2011