

DEPLOYMENT OF BAR CODE MEDICINES ADMINISTRATION TO CONTROL THE ADMINISTRATION OF MEDICINES IN GERIATRIC UNITS

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Background

Among errors occurring in the drug therapy, about 24% take place during the step of administration. [1] Poon showed in 2010 that Bar Code Medication Administration (BCMA) reduced drug administration errors by 41.4% and potential serious adverse drug events by 54.1%. [2]

In the 13 geriatric units at the University Hospital (CHU) of Toulouse, the drug circuit is computerized. Since January 2012, an additional device was deployed in 8 services: barcode readers have been installed to read barcodes on the drug packaging to secure the administration.



Unit dose form



Barcode reader

Purpose

A quality indicator was developed in order to achieve an analysis at a given moment of the importance of the use of barcode readers in care units, directly related to the reduction of the errors of drug administration. This indicator is a management tool to ensure that the BCMA system does not deviate over time.

Materials and Methods

The indicator has been designed with the help of a computer specialist.

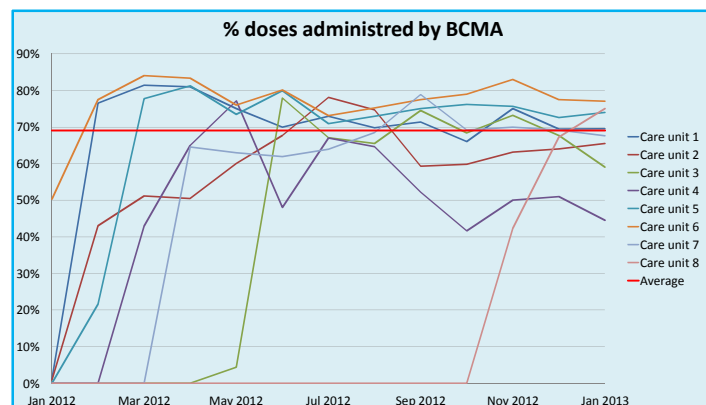
The request is based on an Access® file that extracts administration data from the prescription software Disporao®. Two parameters are determined: the number of doses administered by BCMA and the number of administered doses that could be scanned; the ratio of these two elements reflects the use of barcode readers by nurses.

$$\% \text{ doses administered by BCMA} = \frac{(\text{Number of doses administered by BCMA}) \times 100}{\text{Number of traceable doses administered}}$$

Results

The training of 101 nurses was completed in November 2012.

The objective is to scan more than 95% of unit doses.



The indicator showed that nurses scan an average of 70% of unit doses.

Queries were made to understand the reasons for incompleteness.

Some causes can not be counted but are known :

- interim nurses untrained,
- faulty hardware.

Other origins were evaluated 4 months (June to September 2012):

- incorrect prescriptions (3 %)
- making BCMA impossible
- incomplete BCMA (21 %)

The secure administration process requires the nurses to scan 2 barcodes on the unit doses. For 3 % of the administered doses, the same bar code was scanned twice, and for 21%, only one barcode was scanned. It is necessary to provide further training to the nurses to improve handling of barcode readers.

Conclusion

It is essential to be able to insure an in-service training with nurses to perpetuate the use of barcode readers.

The quality indicator of the secure administration is transmitted monthly in the health framework, and used as a tool of management with the nursing staff.

The optimization of the deployment of BCMA in the Geriatric units CHU of Toulouse allows to plan in a second time the development of this practice on a large number of clinical departments.

[1] MeaH (Mission nationale d'expertise et d'audit hospitaliers) (2008). "Organisation et Sécurisation du circuit du médicament Approfondissement."
[2] Poon, E. G., et al (2010). "Effect of Bar-Code Technology on the Safety of Medication Administration." The New England Journal of Medicine.