

**Assessment of the safety of
medication-use systems in
Spanish hospitals (2007).**
Summary



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Assessment of the safety of medication-use systems in Spanish hospitals (2007) *Summary*



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ABSTRACT:

ASSESSMENT OF THE SAFETY OF MEDICATION-USE SYSTEMS IN SPANISH HOSPITALS (2007)

Introduction:

Patient safety strategies focus on the development and implantation of measures designed to improve health systems. In order to be successful, health care professionals and decision-makers need to have tools available which will help them evaluate systems and identify risks.

To this end, self-assessment tools have proved of great usefulness for improving safety, as they allow for diagnosing situations and comprehending the risks in systems and procedures, serve as a guide for making decisions and planning improvement measures, and also permit measuring the effectiveness of corresponding health care prevention programs and policies.

Objectives:

- **Main objective:**
 - To examine the current situation concerning safety practices in medication use systems in Spanish hospitals, using for the purpose, a self-assessment questionnaire.
- **Secondary objectives:**
 - To identify opportunities for improvement in order to plan the practices that should be included and promoted in the strategies for patient safety.
 - To establish a base line that will permit follow-up of the implantation of these practices.
 - To encourage individual hospitals to perform on-going self-evaluation and to compare their data with the aggregate of hospitals.

Methods:

Those hospitals that completed online the "Medication use-system safety self-assessment for hospitals" between June 1 and July 15, 2007, were included in the study. This tool is an adaptation of the *Medication Safety Self-Assessment (MSSA) for hospitals*, originally designed by the *Institute for Safe Medication Practices (ISMP)* in the United States.

The Spanish questionnaire contained 232 items for evaluation reflecting specific practices or measures designed to prevent medication errors. The items are divided into 10 sections representing the key elements that influence medication use system safety, and these sections then contain one or more core characteristics up to a total of 20.

Results:

A hundred-five hospitals from the 17 autonomous communities in Spain participated in the study. Sizewise, 31.4% were hospitals with up to 199 beds, 33.3% had from 200 to 499 beds and 35.2% had more than 500 beds. With respect to ownership, 81 belonged to the National Health Service and

24 were private hospitals. Ninety-four were general hospitals and 11 were specialized. Eighty were teaching hospitals and 25 were not.

The average aggregate score for the survey in the totality of participating hospitals was 612.7 (39.7% of the maximum possible score) and there were no differences found with regard to size, training activity or type of hospital.

When analyzing the core characteristics, the lowest values were observed in relation to practices that depend on general hospital organization and procedures, or on more innovative safety practices, many of which require investment in technology, personnel, and training. Three core characteristics (# 14, 15 and 18) showed a percentage lower than 25%: those related to competence of health-care professionals (23.1%) and their training in safety (21.4%), and to the establishment of an error reporting and analyzing system in the hospital (22.0%). Another 9 core characteristics (# 1, 2, 4, 5, 9, 11, 16, 17 and 19) showed percentages ranging from 25% to 50%; these include practices related to access to information regarding patients (29.6%) and medications (37.9%); communication of medication orders (35%); prevention of errors due to naming, labeling and packaging problems (35.4%); restriction of medications in patient care units (39.8%); standardization of infusion devices (35.3%); patient education (44.3%); programs for reducing errors (35.6%) and double-checking procedures (31.3%).

The highest percentages were obtained for core characteristics that mainly included practices linked to internal working procedures of hospital pharmacies. Six of the core characteristics (# 3, 6, 7, 8, 12 and 13) showed values ranging between 50 and 75%. These core characteristics were related to the existence of a closed pharmacotherapeutic guide system (53.1%), labeling medication preparations (63.9%), standardization of intravenous solution concentrations and dosages (57.8%), medication delivery to patient care units (58.3%), the workplace environment (59.4%) and appropriate clinical workload (62.3%). Finally, only criteria 10 and 20 showed percentages higher than 75%, and these include practices involving the storing of chemical products (84.1%) and the application of practices of proven effectiveness for controlling infection when medications are utilized (82.3%), some of which are governed by national regulations.

Results obtained for each of the core characteristics in the different groups of hospitals, with regard to size, training activity or type of hospital, were quite similar, which indicates that the degree of implantation for the various core characteristics in the majority of hospitals follows a similar pattern. This shows that the hospitals currently face the same challenges, making it possible and desirable to coordinate efforts to achieve effective implantation of error prevention practices.

Conclusions:

This study serves as a diagnosis of the situation regarding the implantation of safe medication practices in Spanish hospitals, and has shown, as was expected, that there exists a gap between safety theory and reality. Although health care professionals in the participating hospitals were at least aware of many of the most recent practices recommended by expert organizations that are covered in the questionnaire, there were found to exist many barriers that make it difficult to bring these practices to health care reality.

Participation in this study has motivated hospitals toward the internal use of a proactive safety improvement tool which permits health care professionals to evaluate the risks in processes from a system perspective, and to introduce measures designed to minimize these risks beforehand rather than after incidents occur.

The information obtained has led to identification of the areas of greatest risk within the medication use system, specifically those areas related to training, risk management, incorporation of new technologies, and active patient participation. Obviously, the goal is to go beyond a simple recognition of these risks, with this learning actually being applied to specific actions. In this sense, this study has made it possible to establish a base line reflecting the current degree of implementation of safe medication practices, a base line to be used as a reference for monitoring the application of initiatives and programs for improving medication safety set in motion at all levels of the healthcare system from this point on, and in the final analysis, to serve as a guide for improving safety for our patients.

Key words:

Medication errors/ prevention and control; Medication systems, hospital/ standards; Pharmacy service, hospital/ standards; Process Assessment (health care)/ methods; Safety management; Self-Evaluation Programs; Total Quality Management.



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