Simple Safe Practices recommended by government agencies for Adverse Event (AE) prevention in hospital patients

Summary
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The Quality Agency of the National Health System thanks Participants in the expert workshop held on 8 November 2007.

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Summary

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1 Introduction and objectives

In Spain, the nationwide adverse events study (ENEAS), inter alia, played an important part in clarifying the present patient safety situation in Spanish hospitals.

Among many other aspects, it provided objective information on the most prevalent types of adverse events (AE) in Spanish hospitals and determined which of these events may be most easily prevented.

Similar studies have been conducted in other countries, and patient safety is fast becoming a clear priority area in government policy. This is reflected in the increasing number of government policies and guidelines recommending Safe Practices aimed at preventing AE, especially in the hospital setting.

In this context, it is essential to continue to conduct studies reflecting the real situation in Spain.

However it is also important to analyse the measures being taken and the specific recommendations (Safe Practices) being issued in other countries, to identify reference points and put their learning curves and experience to use in the Spanish setting.

Design of study

Hence this review of “Simple Safe Practices” recommended by government agencies for Adverse Event (AE) prevention in hospital patients, which aims, inter alia, to:

- Identify Safe Practices for AE prevention in hospitals nationwide promoted by government agencies in selected countries and by the World Health Organization (WHO).

- Describe each of these Safe Practices, comparing their potential impact on AE prevention and their implementation complexity.

- Prioritise the Safe Practices identified according to the balance between impact and implementation complexity.
The bibliographical review was conducted in four stages:

1. **Selection of countries and organisations included and of relevant data.** The countries selected were the USA, the United Kingdom, Canada and Spain, in addition to the WHO, with a wide-ranging review of both primary and secondary data sources.

2. **Definition of selection criteria of documents located.** An operating definition of “Safe Practices against Adverse Events (SPAE)” was established and applied and the relevant content selected.

3. **Evaluation of each Safe Practice against Adverse Event (SPAE).** Each SPAE identified was evaluated in terms of “implementation complexity” and “potential impact on patient safety”, in accordance with specific criteria and evaluation ranges.

4. **Identification of Simple Safe Practices:**
   
   a. On the basis of the criteria established, Simple Safe Practices were defined as “Safe Practices” against Adverse Events with **low implementation complexity** and **high general potential impact on patient safety**.

   b. In line with this definition and corresponding parameters, the SPAE identified were classified into four groups of Simple Safe Practices, as shown in the following SPAE matrix:
5. **Validation of results with panel of experts.** A workshop was organised with a panel of experts selected by the Ministry of Health and Costumer Affairs (MSC) to validate the methodology used and the results obtained and undertake joint and consensus reflection using Nominal Group Technique to determine:

a. The chief barriers to be overcome for implementation of simple safe practices in Spanish hospitals.

b. In light of the barriers identified, the key initiatives to be promoted by the MSC to facilitate implementation of simple safe practices.
A total of 28 Safe Practices against Adverse Events (SPAE) were identified.

- Broken down by implementation complexity:
  - **Low**: 11 SPAE; **Medium**: 7 SPAE; **High**: 10 SPAE; **Very high**: 0 SPAE.

- Broken down by general potential impact on Patient Safety:
  - **Specific / limited**: 3 SPAE; **Moderate**: 8 SPAE; **High**: 8 SPAE; **Very high**: 9 SPAE.

- Simple Safe Practices:
  - (L1) **Very high impact and low implementation complexity**: 5 SPAE.
  - (L2) **High impact and medium complexity**: 8 SPAE.
  - (L3) **Moderate impact and medium complexity or High impact and high complexity**: 8 SPAE.
  - (L4) **Limited impact and low complexity or Very high impact and very high complexity**: 1 SPAE.
Simple Safe Practices

01 - Single use of injection devices
02 - Improve hand hygiene
03 - Influenza vaccinations for workers and patients
04 - Measures to prevent central venous catheter-related infections
05 - Measures to prevent ventilator-associated pneumonia (nosocomial pneumonia)
06 - Measures to prevent surgical site infections
07 - Colour coding of cleaning materials and equipment to prevent infections
08 - Measures to control performance of correct procedure at the correct body site
09 - Measures to ensure correct communication during patient handovers
10 - Patient identification
11 - Measures to prevent catheter and tubing misconnections
12 - Evaluation of risk of development of pressure ulcers
13 - Evaluation of risk of thromboembolism
14 - Monitoring and supervision of patients on long-term anticoagulant treatment
15 - Use of protocols to assess patients at risk in the case of tests with contrast that may lead to renal failure
16 - Measures to ensure that written information on terminal patients’ wishes is highlighted in their care records
17 - Measures to ensure that all care received by patients is provided by competent, trained and, where appropriate, certified professionals
18 - Measures to ensure safety of patients with latex-related allergies
19 - Precautionary measures when physically containing or immobilising patients
20 - Recommendations to prevent confusion between look-alike, sound-alike medication names
21 - Measures to ensure medication accuracy at transitions in care
22 - Measures to identify all high-risk drugs and establish policies and procedures for their use
23 - Measures to ensure prevention and correct treatment of surgical procedure related acute myocardial infarction
24 - Promotion of safety measures for oral or enteral drug administration
25 - Measures to promote safe use of injectable or IV administered drugs
26 - Measures to ensure effective evaluation of A&E trauma patients
27 - Measures to prevent suicide in hospital patients
28 - Rapid response teams for critical patients

- Validation with Panel of Experts:
  
- On 8th November 2007 a workshop was organised in MSC premises, attended by 21 experts from different regions of Spain, ranging from primary and specialist care nursing staff to representatives of 14 medical scientific associations.

- In the view of these experts, the 11 chief barriers to be overcome for implementation of Simple Safe Practices in Spanish hospitals are:
<table>
<thead>
<tr>
<th>BARRIERS</th>
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<tbody>
<tr>
<td>Resistance to change</td>
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<tr>
<td>Limited channels, means and/or levels of interaction for transfer of information and communication</td>
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<tr>
<td>Scarcity / limited availability of human resources</td>
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<tr>
<td>Limited economic resources and / or infrastructures</td>
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<tr>
<td>Deficient coordination between levels</td>
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<tr>
<td>Poorly developed risk / safety culture</td>
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<tr>
<td>Lack of management leadership in favour of Patient Safety and Safe Practices</td>
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<tr>
<td>Asymmetrical and / or improvable clinical management development</td>
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<tr>
<td>Insufficient training</td>
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<tr>
<td>Lack of active involvement of healthcare providers in Patient Safety optimisation</td>
</tr>
<tr>
<td>Lack of integration of risk management and safe practices in general hospital management</td>
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</tbody>
</table>

- The barriers identified were prioritised according to their degree of feasibility\(^1\) and importance\(^2\).

- A consensus expert view was reached on recommendations on what would be the key initiatives to be promoted by the MSC to overcome each of these barriers in Spanish hospitals.

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\(^1\) Feasibility: in relative comparative terms, according to which would be the “easiest” barriers to overcome in the present context of Spanish hospitals.

\(^2\) Importance: in relative comparative terms, according to which would be the most important barriers to overcome for implementation of Simple Safe Practices.
4 Conclusions

4.1 General summary

Four main conclusions were reached (each discussed in more detail in section 4.2):

1. Identification and analysis of Safe Practices for Adverse Event Prevention (SPAE) in hospitals recommended by government agencies in four countries and the World Health Organization (WHO) (see details page 13).

   This enabled us to verify that hospital-targeted SPAE are in common use in the countries analysed, and to identify 28 specific Safe Practices that sum up the initiatives taken.

   These 28 SPAE were analysed from two main perspectives:
   - Their “general potential impact on patient safety” in the Spanish setting, basing this analysis on the results of the ENEAS study.
   - Their “implementation complexity”, on the basis of the following five criteria:
     - Material resources necessary.
     - Specific human resources necessary.
     - Number of care services to be coordinated.
     - Training and learning needs.
     - Impact on organisation.

2. Determination, on the basis of the methodology used, of Simple Safe Practices for Adverse Event Prevention (SPAE) in hospitals (see details page 14).

   We were thus able to determine, from among the 28 SPAE identified, those which are genuinely “simple”, i.e. those which, in addition to being clearly important in terms of potential positive impact on prevention of the most prevalent Adverse Events in Spain, are also easy to implement (low “implementation complexity”).

   Having established four main groups (levels) of SPAE, we were able to specifically determine, for example, the five (level 1) SPAE with the highest potential impact on AE prevention and the lowest implementation complexity.

   This information will prove invaluable when it comes to the question of “where to start”.

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3. **Expert consensus on the main barriers to implementation of Simple Safe Practices in Spanish hospitals** *(see details page 15)*.

Having identified the most appropriate Simple Safe Practices for the Spanish hospital setting, the next step was to determine the barriers to effective implementation of these measures in Spanish hospitals.

A group of 21 experts was designated by the MSC for this purpose. Basing their reflections on the information generated at the earlier stages of the study, they reached a consensus on the 11 main barriers and grouped them into three priority levels.

Accordingly, decision-makers now have information not only on the SPAE with which to start, and on the order to follow, but also, for example, on the four (priority 1) barriers on which to concentrate their efforts from the start.

4. **Expert recommendations on the key initiatives to be promoted by the MSC to overcome these barriers** *(see details page 16)*.

Lastly, the panel of experts took one further step: placing themselves in the MSC’s shoes, they formulated for the different barriers identified a series of specific recommendations on possible initiatives to be taken by the Ministry.

Thus answers were provided to all the following questions:

- Which Safe Practices for AE Prevention (SPAE) in hospitals have been effectively promoted in the countries studied?
- Which of these SPAE are most relevant to the Spanish hospital setting?
- Which are Spain’s Simple Safe Practices? Which should be targeted first?
- What are the barriers to implementation of these Simple Safe Practices in Spanish hospitals?
- Which of these barriers should be the key target?
- Specifically, what could the MSC do to effectively encourage all these efforts?
4.2 Details

1. Identification and analysis of Safe Practices for Adverse Event Prevention (SPAE) in hospitals recommended by government agencies in four countries and the World Health Organization (WHO).

Cases studied: Spain, Canada, UK, USA and WHO

28 SPAE identified and analysed from two perspectives:

“General potential impact on patient safety”

Specific/limited impact: 3 SPAE
Moderate impact: 8 SPAE
High impact: 8 SPAE
Very high impact: 9 SPAE

“Implementation complexity”

Low complexity: 11 SPAE
Medium complexity: 7 SPAE
High complexity: 10 SPAE
Very high complexity: 0 SPAE

- A detailed description of each of the SPAE according to the methodology applied was included (see example below), as well as the corresponding documentary references.
2. Determination, on the basis of the methodology used, of Simple Safe Practices for Adverse Event Prevention (SPAE) in hospitals.

Correlation of the two perspectives enabled us to determine four levels of implementation recommendations:

**Level 1**

Very high impact & low implementation complexity: 5 SPAE

02 - Improve hand hygiene
03 - Influenza vaccinations for workers and patients
05 - Measures to prevent ventilator-associated pneumonia (nosocomial pneumonia)
06 - Measures to prevent surgical site infections
07 - Colour coding of cleaning materials and equipment to prevent infections

**Level 2**

High impact & medium complexity: 8 SPAE

01 - Single use of injection devices
04 - Measures to prevent central venous catheter-related infections
22 - Measures to identify all high-risk drugs and establish policies and procedures for their use
23 - Measures to ensure prevention and correct treatment of surgical procedure related acute myocardial infarction
24 - Promotion of safety measures for oral or enteral drug administration
08 - Measures to control performance of correct procedure at correct body site
25 - Measures to promote safe use of injectable or IV administered drugs
19 - Precautionary measures when physically containing or immobilising patients

**Level 3**

Moderate impact & medium complexity or high impact & high complexity: 8 SPAE

20 - Recommendations to prevent confusion between look-alike, sound-alike medication names
21 - Measures to ensure medication accuracy at transitions in care
09 - Measures to ensure correct communication during patient handovers
10 - Patient identification
12 - Evaluation of risk of development of pressure ulcers
13 - Evaluation of risk of thromboembolism
16 - Measures to ensure that written information on terminal patients’ wishes is highlighted in their care records
18 - Measures to ensure safety of patients with latex-related allergies

**Level 4**

Limited impact & low complexity or very high impact & very high complexity: 1 SPAE

26 - Measures to ensure effective evaluation of A&E trauma patients
3. **Expert consensus on the main barriers to implementation of Simple Safe Practices in Spanish hospitals.**

- Following identification of the main barriers, three priority levels were established and the barriers were thus segmented into three main groups to determine which should be targeted first (Priority 1).

**Priority 1 barriers: High importance & feasibility**
- Insufficient training
- Poorly developed risk / safety culture
- Asymmetrical and/or improvable clinical management development
- Limited channels, means and/or levels of interaction for transfer of information and communication

**Priority 2 barriers: Moderate importance & feasibility**
- Limited economic resources and/or infrastructures
- Lack of management leadership in favour of Patient Safety and Safe Practices
- Lack of integration of risk management and safe practices in general hospital management

**Priority 3 barriers: Low importance &/or feasibility**
- Deficient coordination between levels
- Scarcity/limited availability of human resources
- Resistance to change
- Lack of active involvement of healthcare providers in Patient Safety optimisation
4. Expert recommendations on the key initiatives to be promoted by the MSC to overcome these barriers.

- Recommendations for Priority 1 barriers:
  
  **Priority 1 barriers:**
  **High importance & feasibility**

  **Insufficient training**
  
  Organise information campaigns with special emphasis on the non-punitive nature of clinical safety. CRITICAL: Overcome culture of “fear”.
  
  Commissions could participate in the design of these plans / programmes.
  
  Include healthcare professionals starting their training (recent medical and nursing graduates, etc.) in these programmes.
  
  Include clearly positive messages for the measures designed to overcome the “culture of fear of reporting / admitting errors”.
  
  Insufficient encouragement / obligation for healthcare professionals to commit to the Patient Safety culture.

  **Poorly developed risk / safety culture**
  
  MSC to prioritise promotion / coordination of initiatives through the Interterritorial Board.
  
  Promote, drive, motivate leadership, targeting:
  
  Unification of criteria.
  
  Encouragement of active participation and collaboration by all concerned.
  
  Benchmarking of results and achievements in regions and scientific societies.
  
  Promotion of specific programmes.
  
  Reinforce training in management of culture changes and changes in mentality and practice, with special focus on process handling, teamwork, etc.
  
  Coordinate training to establish a basic uniform level (help to set standards and base criteria) and direct training at a wide range of healthcare sector professionals.
  
  Promote continued training in this respect and use / develop communication tools: means of communication, introduction of integrated IT systems for all regions, etc.

  **Limited channels, means and/or levels of interaction for transfer of information and communication**
  
  Make information on Adverse Events available, placing it on the MSC website and sending it to the regions for distribution to organisations and, especially, healthcare professionals.
  
  Encourage the flow of specific resources to this end.

  **Asymmetrical and / or improvable clinical management development**
- Recommendations for Priority 2 barriers

**Priority 2 barriers:**

**Moderate importance & feasibility**

Lack of management leadership in favour of Patient Safety and Safe Practices

Measures designed to create interest, reward attitudes, encourage actions ...

Leadership “groups” should be encouraged on vertical and horizontal lines:

**Vertical:** 2-way relationship between regional authorities, area management, hospitals, primary care, encouraging leadership down from the regional to the local level (leadership ladder).

**Horizontal:** for same-level sharing and exchange of experience and knowledge (between hospitals, authorities, area management, etc.), both within and between regions.

This implies marketing moves (to reinforce interest), rewards, incentives ...

Training scholarships, recognition of best practice, good process management (to be well identified).

Encourage formulation of specific indicators for integration in management structures and even within the framework of programme contracts or similar control and development instruments. Specific and results-based design.

Lack of integration of risk management and safe practices in general hospital management

Limited economic resources and / or infrastructures

General reflection: Not so much a problem of funding as of efficient and effective management of funds.

The MSC should encourage the possibility of investing funds in more studies designed to enhance the training culture and improve “measurement” and impact of results.

- Recommendations for Priority 3 barriers:

**Priority 3 barriers:**

**Low importance &/or feasibility**

Deficient coordination between levels

Set guidelines and provide advice at three levels: healthcare professionals, patients and care.

All these agents (healthcare professionals, patients and care levels) should feel identified in the MSC-promoted campaigns, creating a sense of mutual and shared commitment, a sense of team.

Encourage the development of multidisciplinary committees for each level (Ministry, regions, hospitals, etc.) similar to those established for this expert workshop.

Scarcity / limited availability of human resources

Formulate basic rules for standardisation of workforce and encourage creation of recognition systems for best practice.

Encourage process management development.
Resistance to change
Motivate / encourage design of specific training programmes and definition of clear rules (for adverse event prevention) to be included in centre AE prevention manuals. Design incentive programmes for hospitals that implement or make positive progress towards implementation and effective integration of a risk prevention culture. Based on information that serves as feedback and optimises management in this respect. Reward all those who establish quality commissions and/or risk units in their hospitals.

Lack of active involvement of healthcare providers in Patient Safety optimisation