Chapter 64

Users’ Perception towards the “Safe Medication through Pharmacovigilance and Compliance Monitoring (Pharmacov)” Service

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ABSTRACT

A feasibility study was conducted to evaluate the acceptability and effectiveness of the “Safe medication through pharmacovigilance and compliance monitoring (Pharmacov)” service, an Internet-based interactive information tool that assists physicians in identifying potential Adverse Drug Events (ADEs) or contraindications when they are prescribing medicinal products to patients. The users’ perception was assessed by the means of a structured questionnaire containing Likert type responses ranging from 1 to 5. Five hundred eighty nine (n=589) healthcare professionals were enrolled during an eight (8) month trial of the service in London, UK during 2007. The vast majority of the healthcare professionals who participated in the study was very enthusiastic about the Pharmacov concept and perceived clear benefits in terms of accessing drug information. The authors’ results suggest that a well-designed intervention study is possible. This will allow the evaluation of the feasibility, acceptability and effectiveness of the intervention in the context of the different European healthcare systems, and may gradually shape an optimal health care system. Their study is limited to the specific extend that the pilot trial of the service could not be implemented as part of the routine clinical practice of the participating physicians mainly because of the need to continuously update the service functionality during the execution of the study.

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INTRODUCTION

Pharmacovigilance (abbreviated PV or PhV), also known as Drug Safety, is the pharmacological science relating to the collection, detection, assessment, monitoring, and prevention of adverse effects with pharmaceutical products. Patient safety is a key dimension in the provision of quality healthcare and has become a major issue for all healthcare systems today. Adverse drug events (ADEs) are one of the most frequent types of adverse events affecting hospitalised patients, causing one (1) out of five (5) injuries or deaths per year to hospitalized patients (Leape et al., 1991; Brennan et al., 1991) and the fourth leading cause of death, according to the FDA (Monahan et al., 1990) & (Chan et al., 2001). It is not a coincidence that more than a quarter of a million patients in the United Kingdom and two to three million in the United States are admitted to hospitals showing harmful effects after taking drugs (BMA, 2006). Most health care organisations rely on spontaneous reporting, which cannot detect all adverse events. The use of electronic data can identify instantly the possible presence of ADEs (Wilson et al., 2004; Szarfman et al., 2002). Although Honigman et al. (2001) have investigated the use of EMR in detecting known ADEs, there have been no studies of data mining using EMR. Pharmacov [X] is an internet based information tool that assists physicians to identify potential adverse events or contraindications of drugs when they are prescribing drugs to patients. The application provides a multimodal web in-

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<tr>
<th>Key System Features/Modules</th>
<th>User Interface Capabilities</th>
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<tr>
<td>Drug information</td>
<td>Searches for and retrieves information for a specific drug from its Summary of Product Characteristics (SPCs). Search can be performed by using the drug’s brand name, its generic name and/or the manufacture’s name.</td>
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<tr>
<td>Compare drugs</td>
<td>Provides the ability to the user to select two or more drugs and compare them against different criteria. These criteria correspond to all the relevant sections of a drug’s SPC.</td>
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<tr>
<td>Drug prescription</td>
<td>The system displays an electronic prescription form. The requested information to be filled in or selected from a drop down list by the user concerns patient data (e.g. age, weight, gender), current diagnosis (es), suggested drugs to be taken, already administered drugs. It also provides warnings for drug Interactions and contraindications.</td>
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<tr>
<td>Prescription statistics</td>
<td>Provides cost and statistical analysis relating to prescriptions dispensed by the service users (not active in the pilot trial).</td>
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<tr>
<td>Reporting suspected adverse drug reactions</td>
<td>Download and upload ‘Report on suspected adverse drug reaction’ form; send electronically (via email) the form to the responsible regulatory agency; add comments typing them in a text-free field; email comments to the regulatory agency. E.g. In the case of a UK based user, he/she can download the Yellow Card form, complete and then submit it to The Medicines and Healthcare products Regulatory Agency (MHRA).</td>
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| Tools                      | While prescribing drugs to the patient, the user-physician can access the following information:  
  a) Calculate Body Surface Area (BSA) for medication doses using various formulas (Mosteller, DuBois, Haycock, Gehan&George, Boyd).  
  b) View reference ranges for medical tests (not active in the pilot trial).  
  c) View paediatric charts (e.g. Boys/Girls stature for age or weight for age percentiles). |
| Internet Forum             | Enables the user to hold discussions, share experiences, post content etc over the internet. Pharmacov uses the Community Server developed by Telligent. |
| External search            | Access external search engines like Google and PubMed and useful web sites. |
| User Profile               | Enter personal information e.g. demographics, organisation details, address etc; modify log in details to the service. |
| Logout                     | Allows registered users to log off and automatically exit the service. |
| Multilingual service       | The user interface is currently available in 4 different languages [Greek, English, Czech and German]. Additional user interface languages can be added on demand. |
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