

## Section 8: IT Information Systems

### Introduction

IT information systems play a crucial role in promoting and strengthening the protection of public health. The establishment of a pan-European information system for the pharmaceutical sector to objectively inform patients, health professionals and other stakeholders is a strategic goal EU countries are fully committed to achieve.

Networking between national competent authorities, the EMEA and the European Commission has become a crucial element to promote public health in the EU for which the development of IT information systems provides the appropriate ground.

This IT strategy intends to define the way to implement not only the information required by the legislation but beyond, looking at synergies within the network that could improve its functioning.

The Telematics Strategy approved in Verona on July 2003 by Member States, EMEA and the European Commission has among its objectives to increase business efficiency and at the same time to progress, in a modular way, taking as criteria the real needs and requirements of the Member States and stakeholders, evaluating the impact of the development of new systems on individual Member States and making the best use of available resources at national level.

Interoperability of EU initiatives with systems in place in the different Member States is essential.

A clear position on responsibility and accountability of National Competent Authorities (NCAs) and EMEA towards the future European Medicines Regulatory Network (EMRN) is also required.

### IT Strategy Key Principles

Throughout this IT strategy section, several key principles arise and stand up as rules to be agreed and complied for by all parties in the European Medicines Regulatory Networks. These principles are:

- IT information systems should support the European Medicines Regulatory Network (EMRN).
- The EMRN strategy should focus not only on the information required by the European legislation but beyond, looking at synergies and services within the network that would improve its functioning.
- IT architecture should be flexible and fully respect national competences.
- IT systems in place at EU level and in different Member States have to be interoperable.
- EMEA is part of the EMRN, both with roles common to all Competent Authorities and with general coordination and supervision roles.
- Responsibility and accountability of NCAs and EMEA for the exchanged information within the future EMRN has to be agreed upon.
- Information available should have high standards of quality.
- Authoritative information on medicinal products should be validated, controlled and maintained by the responsible regulatory authority.
- Stakeholders should get the information needed in the most effective, efficient, simple and quickest way, independent of where the information is sited.

- IT architecture should progress to a single/limited number user interface, giving access to information made available through National and European databases, presented in a comprehensive and harmonised way.

### **Vision for IT Information Systems / Global architecture of European Medicines Regulatory Network Information Systems**

Current common European information systems for the pharmaceutical sector are managed by the EMEA in line with guidelines laid down by the EU and in close coordination with Member States and the European Commission, as defined by the European Telematics Strategy for the Pharmaceutical Sector. Also NCA are responsible for the management of specific projects for the EMRN. This overall information infrastructure is composed by a three-pillar system:

- A set of databases;
- An interface channel structure where information is subject to security requirements;
- A set of standards to which the information submitted should comply.

Several IT systems are directly referred to in the legislation, including a clinical trials register and a database of suspected unexpected serious adverse reactions<sup>1</sup>, a database of authorised medicinal products<sup>2</sup>, a database of information on adverse reactions<sup>3</sup> and a database of manufacturing authorisations and of certificates of good manufacturing practice<sup>4</sup>. It is also envisaged the use of electronic networks to facilitate the communication on adverse reactions and of pharmacovigilance information<sup>5</sup>. There are several other legal requirements found in the referred legislation (namely, volume of sales, volume of prescriptions, marketing authorisation, refusing and revoking decisions, marketing and withdrawal dates ...) which have to be complied for by each NCA and which may vary depending on the different responsibilities of NCAs.

It is also foreseen, in line with international agreements (ICH) and HMA agreement at Reykjavik, the use of electronic means to submit all marketing authorisation applications by the end of 2009. These systems are being put in place by EMEA in close cooperation with NCAs, in accordance with the EU Telematics Strategy and under the framework of the telematics management structure.

In addition to the common systems being developed under the EU Telematics Strategy framework, there should be an effort to identify the administrative (ERP<sup>6</sup>) and corporate systems currently implemented at national level, taking into account "the real needs and requirements of the Member States and stakeholders" and "increase business efficiency"<sup>7</sup>, promoting the "more effective use of existing IT resources"<sup>8</sup>.

All projects should be managed in an integrated and close manner among all stakeholders involved, patients, public, health professionals, regulators and pharmaceutical industry.

Considering the general coordination and supervising roles of EMEA and the fact that NCAs provide the scientific expertise and most of the data to the systems, it should be the general responsibility of all NCAs Information Systems to provide the tools for increased transparency, improved information and earlier/proactive communication.

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<sup>1</sup> Directive 2001/20/EC

<sup>2</sup> Regulation 726/2004 – art. 57 1(1), 2 and Council Resolution 2004/C 20/02

<sup>3</sup> Regulation 726/2004

<sup>4</sup> Directives 2004/27/EC (Human) and 2004/28/EC (Vet)

<sup>5</sup> Directives 2001/83/EC, 2004/24/EC and 2004/27/EC (Human); 2001/82/EC and 2004/28/EC (Vet)

<sup>6</sup> Enterprise Resource Planning

<sup>7</sup> Telematics in the Pharmaceutical Sector – Strategy Paper

<sup>8</sup> Council Resolution 2004/C 20/02

To facilitate the best use of existing resources and to “fully respect the national competencies” the global architecture should be flexible enough to allow national authorities to make available national information using existing national resources responding to national requirements.

## **Databases required to respond to the needs of the European Medicines Regulatory System**

In order to respond to the needs of the European Medicines Regulatory System and to facilitate the activities of the Regulatory Authorities and promote their collaboration, several information databases are required<sup>9</sup>.

Based on legal provisions:

- A single European information system on medicinal products authorised in EU/EEA, accessible to the public and facilitating the search for information on package leaflets, summaries of product characteristics and labelling - EuroPharm
- A pharmacovigilance information system – EudraVigilance.
- A database system holding the information contained on application forms regarding clinical trials – EudraCT.
- A database system regarding information on manufacturing authorisations and the results of GMP inspections – EudraGMP.

Databases and systems holding information shall be developed in order to respond proactively to specific needs of users, e.g., NCAs, patients, health professionals, pharmaceutical industry, etc.

### **Necessary for transparency needs:**

With regard to increased transparency on the work of pharmaceutical regulatory agencies, the agreed principles and rules applying on the performed processes as laid down in best practice guides, standard operating procedures, guidelines and position papers need to be made available to the public.

A common HMA website, complementary to the EMEA fulfilling this task, may provide a platform to the NCAs to publish all regulatory and procedural information. This HMA website may also serve as platform for the publication of assessment reports, the reasons for the opinion on a medicinal product as foreseen in the European legislation and to gather feedback from patients and healthcare professionals on the information provided.

Regulatory authorities today are also in need to share information and data that may have been already introduced in parts of the community and for which has been achieved a disclosure agreement between concerned stakeholders. Such areas could, for example, include information on clinical trials conducted in specific populations, already implemented ‘compassionate use’ programmes, traditionally used herbal medicinal and homeopathic medicinal products.

### **Required to facilitate the activities of the Regulatory Authorities:**

At a long-term view, appropriate IT systems should support all common areas of activity of Regulatory Authorities. Some examples of such areas where a clear benefit may already be presented are the following:

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<sup>9</sup> Other than the databases clearly defined by legislation are only referred as possible examples of common development. The final definition of databases and development prioritization will depend, necessarily on the requirements put forward by the remaining drafting groups  
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- A database system to support regulatory activities regarding the Mutual Recognition (MRP) and Decentralised Procedures - CTS.
- NCAs should also aim at the build up of a scientific memory database related to marketing authorisation procedures and linked to other similar databases either national or centralised. This database should be located centrally and accessible to all NCA through HMA website.
- Information on the lifecycle changes a product is undergoing once having achieved marketing authorisation is of fundamental importance for the patients and health professionals as regards the conditions of use of the medicinal product but also need to be shared by regulatory bodies. Electronic support of lifecycle management is currently dealt with in e-Submission project laying down the principles of format and integration into eSubmissions. With the specification for an eCTD tools for the creation, reviewing and annotation of applications submitted in this format are being developed by software industry and NCAs. Modes of updating the information presented to the public as contained in EuroPharm are one of the tasks NCAs need to face in close collaboration with the EMEA.
- EDQM provides certificates of suitability for drug substances and materials of animal or human origin. NCAs rely on these certificates to approve the products containing these materials. While not absolving applicants from the need to keep NCAs informed of updates, the ability to access a database of these would be of great assistance to the NCAs.
- The rules for the reimbursement of medicinal products are currently not harmonised through community legislation and this subject clearly is referred to the national law in the EU/EEA countries. Moreover, prices for medicinal products as well as the volume of sales differ largely between EEA countries. There is an interest in joining and providing this data between NCAs but also publicly in a comparative manner for several reasons as e.g. the free movement of goods, as baseline information for pharmacovigilance, for economical statistics and other.
- Data on the financing and/or budget of NCAs is currently available at individual NCAs only. Growing demand for exchange of these data between NCAs in view of the efficient use of resources may require mutual provision of these data, though not necessarily through IT systems.
- Certain specific data is being repeatedly used by the stakeholders of all the European Medicines Regulatory System: details of members of committees, working groups and contact points in charge of particular tasks are already published over NCAs, EMEA or HMA internet representations, but access via a common point of entry would improve the situation. Other data as catalogues of marketing authorisation holders including contact details are present in databases in NCAs but cannot be shared at present. It would also certainly be beneficial to make available within NCAs, the national lists of experts who can be called upon.

## **Information and communication technology services / IT with regard to capacity, capability and management**

Interconnection with Eudranet should be reinforced and used for a variety of services, not only for users but also for applications to interchange information. It should become the single route between Agencies and the EMEA.

New services on the network should be implemented, such as voice over IP and videoconferencing, improving the efficacy and efficiency of the overall system.

A common European portal promoted by the NCAs should be envisaged. Regardless of the interface that makes the information available externally, responsibility for validation, completeness and quality of the information published should remain with the national authority.

Specific national requirements to publish medicinal product information on national official websites should be respected but there should be a common approach (some guidelines about structure, accessibility criteria, etc.) and synchronization of information (i.e. data, news, etc. must be coherent among all local websites) requiring some kind of communication between EMEA and NCAs.

Co-operative workspace tools, used to share documentation and other information, as an assistant tool for teleconference or as itself, should be implemented and used across NCAs, regarding not only the telematic project teams working close in collaboration with EMEA, but also as a means of reinforcing the network.

General training services could also be developed to be shared among all NCAs, based on appropriate IT tools and making the best use of the existing communication network and services such as videoconferencing.

On security issues, a consistent strategy and coordination is necessary. Several other aspects have also to be considered regarding the confidentiality, origin and availability of information, user and/or application authentication, documents authentication and integrity.

## **Reference data models, exchange standards and common dictionaries / Plan for eCTD implementation in NCAs**

To go ahead with the creation of the EMRN Information Systems it is mandatory to have Reference Data Models and Dictionaries. We need these models to consolidate information, to build common databases, etc..

Existing national requirements to communicate medicinal product information externally may differ from Community requirements. Therefore some of the information requested by the European legislation may not be available in national systems, which will need to be extended to cover it. In some NCAs, information may be available but not in a database or website because there is no national requirement to communicate this information outside the authority.

Core reference data models are related to:

- Data gathered at national level to be shared at European level.
- Information systems at national and European regulatory authorities.

From November 2005 there will be an obligation to all NCAs to publish relevant national medicinal product information and a core reference data model that covers all of this information needs to be in place.

Common dictionaries are as essential as reference data models. National authorities use dictionaries for standard terms such as pharmaceutical forms, routes of administration and containers. Also for units and quantities, ATC codes and MedDRA or national names for active

substances, manufacturers and marketing authorisation holders. These dictionaries used and maintained so far by each national authority in their own national language may be coded and used for validation purposes by national information systems.

The new role of EMEA as the coordinator and hub in the harmonised collection, validation, evaluation and dissemination of authoritative information on medicinal products, as stated in its Roadmap to 2010, can only be fulfilled if the equivalence of terms used by all European authorities in all European languages can be ensured.

The international harmonisation process at ICH has produced data exchange standards such as E2B for ICSRs and eCTD. Exchange standards for administrative information in the Application Form for new marketing authorisation applications and for the product information (SPC, package leaflet and labelling) have been developed and an exchange standard to send data to EMEA for the registry of clinical trials has been implemented to comply with the clinical trials directive.

Whenever authoritative information produced by national authorities needs to be exchanged with EMEA or between NCAs to populate common systems, data exchange standards will need to be developed and European dictionaries of coded terms need to be developed with the coordination of EMEA to ensure consistency and quality of the data.

### **Plan for eCTD implementation in NCAs**

eCTD is the technical specification for the submission of a marketing authorisation application in a standard electronic format utilising the structure of the Common Technical Document (CTD) adopted by ICH partners. It enables standard electronic exchange of applications between industry and regulatory authorities during the licensing process.

Its implementation can facilitate the processing and transfer of data into information systems where, once validated, are the source of authoritative information that will populate National and European databases. It represents significant benefits such as faster validation, full and consistent life cycle management of medicinal product information, better access to the information for reviewers and reduction of physical archiving space. It will also help the implementation of the Mutual Recognition and Decentralised Procedures, where the same information has to be exchanged between multiple stakeholders.

At the Reykjavik meeting on 24 February 2005 HMA adopted the end of 2009 as a target date for ICH's eCTD implementation. This means that by the end of 2009 all members of the European Regulatory Network will require to have the infrastructure and the processes in place to handle electronic submissions of eCTD for marketing authorisation applications without paper and be able to make the best use of them.

All members of the network will not be ready at the same time. Some will implement eCTD without paper before the agreed timeline. The impact of the implementation on National information systems needs to be assessed and the best use of available resources must be ensured. This target will have an impact on national legislation in many cases.

Full implementation of eCTD in Europe needs planning at European and national level. Stakeholders need to define together the ultimate goal, milestones of implementation and their timelines; identify the critical issues, criteria of success and the key success indicators. Regular monitoring of implementation should be implemented.

National planning is being supported at European level by the Telematics Management Structure where implementation experience and guidance implemented at national level can be shared.

## **Possible shared common services / EMEA role as IT Services Provider**

As a tool to reinforce the activities and operations of the Agencies part of the Network it is desirable to develop common services, which could benefit both the NCA and the EMEA.

The provision of common services by the EMEA, like the EudraNet, can contribute to a more efficient system, especially to ensure the interconnection of all parts of the Network.

Other common services can be considered, e.g. involving groups of Agencies or the creation of a repository for electronic applications for MS (and EMEA).

Clusters of Agencies may have their own common services, linked to each other. EMEA would be its own cluster. This would provide for greater input from each MS as input within a small cluster would be much greater than within the whole. Independent contractors could run the common services for the cluster and this could provide greater resilience for the whole enterprise. Some Agencies may wish to run services for clusters, e.g. a repository for electronic applications.

## **Priorities task list**

As a conclusion point and taking in consideration all the requirements set out through out this document and the necessarily scarce available resources, there are a number of proposed actions to be undertaken to actively pursue the proposed strategy, namely:

- Implement a HMA web portal with the proposed common information and communication needs of the European Medicines Regulatory System.
- Extend and reinforce the use of Eudranet as the information exchange channel of the network.
- Implement new functionalities on the network, e.g. voice and videoconferencing.
- Develop solutions for NCAs to share necessary information and to make it available to the envisaged users.
- Define consistent strategy and coordination on security issues.
- Identify and validate at European level the list of data required by the legislation and the most efficient way (both in terms of cost and resources) of delivering it.