



Improving healthcare and patient safety by interoperable ePrescribing services

Observations & Conclusions

from the EHTEL International Conference ePrescribing & Medication Management Ljubljana (Slovenia), June 2006 (hosted by the Ministry of Health, Slovenia and ZZS)

Stakeholders in healthcare from all over Europe met recently at a conference on ePrescribing and Medication Management in Ljubljana, Slovenia and observed:

- ◆ Medicines are the most frequent therapy and prescribing is one of the core processes of healthcare with an extremely high volume of transactions.
- ◆ Electronic Prescribing (ePrescribing) of medicines is not a single application, but should be referred as a family of at least 3 separate services, i.e. decision support, electronic transmission of prescriptions and the use of Medication records.
- ◆ ePrescribing is an enabling tool for the collaboration of all actors in health care.
- ◆ ePrescribing is a building block for the complete Electronic Health Record (EHR).
- ◆ Medication management is a complex process that relies on the interaction of multiple professions, individuals and public and private organisations.

ePrescribing services show substantial potentials for utility (to improve patient safety and the quality) and for usability (i.e. efficacy, efficiency and effectiveness of healthcare) improvement by e.g.

- ◆ Minimizing the confusion caused by hand-written prescriptions;
- ◆ Improving quality of prescriptions (readability and completeness);
- ◆ Providing a better information base for informed medication decisions;
- ◆ Preventing serious errors in doses and drug combinations;
- ◆ Reducing various causes of medication errors;
- ◆ Facilitating the prescribing and dispensing processes and contributing to the necessary patient-oriented focus and efficiency;
- ◆ Lowering the frequency of unforeseen medication interactions and of adverse drug reactions and at the same time safeguarding positive therapeutic results.

Patients benefit from

- ◆ Reliable prescribing processes and the provision of the optimal medication;
- ◆ Improved information aimed at more optimal use of medicines and better outcomes.

Physicians benefit from

- ◆ Better support for medication decisions, safeguarding good quality for less effort;
- ◆ Additional information on patients medical and medication history;

- ◆ Optimal presentation of prescribing related information;
- ◆ Improved decision support systems taking into account full medication profiles.

Pharmacists benefit from

- ◆ Non-ambiguous medication and drug dosage information;
- ◆ Additional information on patients medical and medication history;
- ◆ Improved decision support systems taking into account full medication profiles;
- ◆ Improved communication between prescribers and pharmacists.

Conference Programme Committee

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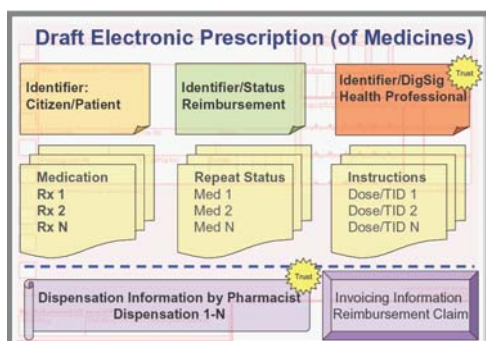
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Health Insurances and Health systems benefit from

- ◆ Reduction of medication errors and reimbursement fraud
- ◆ Streamlined processes around medication, direct and indirect financial savings.



The implementation and use of ePrescribing services is facing some challenges, which could lead to limitations for the delivery of adequate medicines, particularly in transregional or transnational (cross-border) settings:

- ◆ Differing legislation, organisational and technical infrastructures;
- ◆ Different reimbursement procedures and pricing mechanisms;
- ◆ Different, non-interoperable formats for the prescription and medication profiles;
- ◆ Different, incompatible nationally and regionally implemented architectures and technologies (e.g. smartcard, mailbox, barcodes, central prescription database etc.);
- ◆ Use of different semantic standards, i.e. different coding systems, for medication and drug/dosage documentation;
- ◆ Different branding and composition of medicines while at the same time no complete and universally accessible uniform medicines databases exist.

- ◆ Different healthcare cultures involving e.g. different training and roles for health professionals, e.g. pharmacists/nurses prescribing in UK.

To support smooth implementation and use of ePrescribing services, potential obstacles should be addressed as early and coherently as possible. The risk of negative outcomes for patient safety must be minimised; the quality of medicine therapy must be safeguarded. New challenges deriving from cross-border issues like patient mobility and the global availability of ePharmacies should be tackled. This results in the following – non-exhaustive – list of concrete recommendations for the implementation of ePrescribing and Medication Management in Europe:

- ◆ Promotion of the perception of benefits and added value towards all stakeholders (both on the political level and for the Healthcare Professionals in the field);
- ◆ Identification of “Key Factors of Success” and at the same time examination of the reasons for underachievement and failure;
- ◆ Encouragement of comparisons within the European context between (National) initiatives, looking for similarities (to develop) and differences (to learn from);
- ◆ Facilitation of the communication between Member States on ePrescribing and Medication Management and establishment of European cooperation on key elements of interoperability;
- ◆ Analysis and solution of regulatory and legal issues of ePrescribing;

- ◆ Involvement of the needs and rights of citizens and patients in all project phases;
- ◆ Adoption of privacy regulations as guiding principle and at the same acceptance that those regulations are and will be different in different National healthcare systems;
- ◆ Establishing cross-border acceptance for digital Health Professionals’ identification and authorisation as a prerequisite for the fulfilment of cross-border ePrescriptions;
- ◆ Establishing international unique patient identification and mutually accepted digital authorisations of health insurances and healthcare providers to facilitate or enable the reimbursement of cross-border electronic Prescriptions;
- ◆ Establishing international standard formats for interoperable electronic prescription messages and interoperable medication records (medication profiles);
- ◆ Avoidance of a “digital Prescribing Babel” by safeguarding the semantic interoperability of all medication related information (substances, dosage etc.);
- ◆ Establishment of universally accessible, uniform medicines databases taking into account the existing approaches of the World Health Organisation (INN, Drug Dictionary,) and the European Medicines Agency (European Public Database on Medicines) in support of the safety and semantic interoperability of ePrescribing.
- ◆ Certification and quality labelling of ePrescribing and Medication Management software to provide the professional user with guidance and support.