



## 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.

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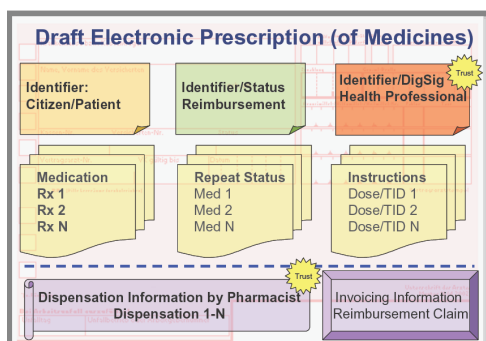
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### Health Insurances and Health systems benefit from

- ◆ 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.