Electronic Prescriptions: Why Community Pharmacists Still Treat Them as Paper-Based?

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Abstract. Belgium is in a transition from paper-based prescriptions to electronic prescriptions (ePrescriptions). Since patients still receive a paper proof of the ePrescription, this proof is sometimes used as a paper-based prescription. In this study, the frequency of incorrect use of the paper proof was evaluated and possible reasons for incorrect use were hypothesized. In 10,000 prescriptions, 226 ePrescriptions (2.26 %) were handled incorrectly. Possible reasons for this handling are (1) non-compliance of the community pharmacist; (2) errors in software or handling of the community pharmacist; (3) errors at the prescriber side or patient tries to fraud; (4) incorrectly revoking the ePrescription; and (5) errors in prescriber's software. The presence of incentives and penalties might help in preventing this erroneous type of handling.

Keywords. Electronic Prescribing, Community Pharmacy Services, eHealth

1. Introduction

The electronic prescribing workflow or ePrescribing workflow in Belgium consists of the traditional 3Ps model (prescriber, pharmacist and patient). [1] These are complemented with a tarification service, who invoices the reimbursable costs towards the healthcare insurances of the patients according to third party payment.

In the current flow of ePrescriptions, the patient still receives a paper proof of electronic prescription -with a unique Recip-e ID (RID) barcode on top- in case of an ePrescription and receives a paper prescription using paper-based prescriptions.

It was observed that not all Belgian ePrescriptions were dispensed electronically. Therefore, in this study we evaluated how frequent ePrescriptions were treated as paperbased and the reasons why ePrescriptions were still treated as paper-based.

2. Methods

After ethical approval for this study was obtained from the ethical committee of UZ Brussels (nr. 2018/218), the tarification service Koninklijk Limburgs Apothekers Verbond (KLAV) provided data from the community pharmacies. A random sample of 10,000 prescriptions coming from 50 community pharmacies registered to KLAV was

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selected with a two-stage cluster random sampling technique based on the location of the pharmacy and the number of prescriptions processed within a month within that pharmacy. These prescriptions were categorized per type (ePrescription, paper-based prescription, extended delivery). RID barcodes were used to retrieve all logged interactions with the ePrescription. Based on the interactions, we performed an observational study to obtain reasons why community pharmacists treat the ePrescription as paper-based.

3. Results

In this random sample of 10,000 prescriptions, 4,961 were ePrescriptions (49.61%), 4,677 were paper-based prescriptions (46.77%) and 362 extended deliveries (3.62%). Of the ePrescriptions included in this random sample, 226 prescriptions (4.56%, in total 2.26%) were treated by the community pharmacist as a paper-based prescription.

Using the RID barcode, we were able to distinguish five possible reasons for which ePrescriptions were still treated as paper-based (Table 1).

Table 1. Reasons for treating the ePrescription as a paper-based prescription (n=226).

Reason	Ν	%	%
			in total
- Non-compliance of the community pharmacist	124	54.87	1.24
- Error occurs in software or handling of community pharmacist	85	37.61	0.85
- Error occurs at prescriber side or patient tries to fraud (double RIDs)	12	5.31	0.12
- Incorrectly revoking the ePrescription	3	1.33	0.03
- Error occurs in software of prescriber	2	0.88	0.02

4. Discussion

In this observational study, we analyzed 10,000 prescriptions of which 226 (2.26%) ePrescriptions by the community pharmacist were still treated as paper-based. The main reason for treating an ePrescription as paper-based was non-compliance of the community pharmacist where the pharmacist ignores the digital nature (n=124, 54.87%).

To the best of our knowledge this is a first attempt to evaluate how frequent and why ePrescriptions are still handled as a paper-based prescription in a transition phase. When we want the community pharmacists to comply with the prescribing standards, one might think about incentives for good actions and penalizations for incorrect actions. However, some studies report that even with the presence of these incentives and penalities, several pharmacists are still reluctant to adopt to the ePrescribing services.[2, 3]

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