



**PGEU GPUE**

*Pharmaceutical Group of European Union  
Groupement Pharmaceutique de l'Union Européenne*

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# PGEU Statement: eHealth Solutions in European Community Pharmacies





## Executive Summary

*The Pharmaceutical Group of the European Union (PGEU) is the association representing community pharmacists in 32 European countries. In Europe over 400.000 community pharmacists provide services through a network of more than 160.000 pharmacies, to an estimated 46 million European citizens daily. PGEU's objective is to promote the role of pharmacists as key players in healthcare systems throughout Europe and to ensure that the views of the pharmacy profession are taken into account in the EU decision-making process.*

*This document describes eHealth developments in European community pharmacies and outlines the main benefits that these innovations can provide to patients, pharmacists, other health professionals and health system payers alike, as well as making several recommendations to address the barriers to the implementation and use of eHealth initiatives. An annex provides detailed descriptions of the various eHealth initiatives pharmacists are providing across Europe.*

Since the beginning of community pharmacy computerisation in the 1990s, the profession has demonstrated its willingness to adopt innovative technologies to offer the highest standard of pharmacy services. In the area of eHealth, no other healthcare profession has invested more than community pharmacy in terms of its own funds. It has developed the necessary infrastructure and culture to implement innovative eHealth technologies with the ultimate goal to deliver significant benefits to the public.

A number of advantages can be achieved from using eHealth solutions within the pharmacy network. They include greater accessibility to care, further integration of the primary healthcare system, improved health outcomes, reduced costs to health systems payers, improved health literacy, support for self-care, enhanced patient safety and increased quality of care. The deployment of these tools is supported by the use of best practices within pharmacists' regulatory and ethical frameworks, as well as by pharmacists keeping their ICT knowledge and skills up to date as required.

The development and expansion of eHealth is expected to bring significant benefits to patient care and health systems performance<sup>1</sup>, yet eHealth solutions are fragmented at both national and European levels. Despite recent progress, many ePrescription systems in Europe are not deployed with full national coverage and there is little, if any, exchange of cross-border ePrescriptions. European guidelines have been developed on eHealth which are technically focused and do not involve end-users in a practical way. Healthcare institutions and healthcare professionals face a

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<sup>1</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52012DC0736>



continuous need to update and expand health facilities, technology and equipment with great expense.

In light of the above, below we offer five key recommendations for consideration by pharmacists, fellow healthcare professionals, Member States, ICT developers and policy makers.

## **Recommendations**

1. Policy makers, ICT developers and other healthcare professionals should engage with pharmacists as experienced users to develop eHealth policies and services at local, regional or national levels as appropriate;
2. eHealth should be integrated into health systems complementing and supporting existing practice, with pharmacy potentially as a link between several services, organisations and infrastructures;
3. Electronic health records should be linked with ePrescribing systems, thus allowing healthcare professionals involved in patient care to access necessary patient information from the electronic health record. There also should be a facility to update the electronic health record with relevant information when necessary, in order to increase the capacity to identify and address potential medication and patient safety-related issues;
4. Communication and collaboration between patients, healthcare professionals and ICT developers is crucial to obtain the full potential of eHealth technologies and to build confidence and trust. When developing guidelines for eHealth, policy makers are called upon to meaningfully involve their end users;
5. The community pharmacy profession should be recognised, supported and adequately reimbursed for their continuous investment in eHealth, ICT infrastructure, eSkills of the workforce and contribution to improved health outcomes and reduced healthcare costs.



## Definitions<sup>2</sup>

### eHealth

“Electronic health” refers to the provision of healthcare services supported by modern electronic information, management tools and processes with the support of Information and Communication Technology (ICT) – i.e. computers, mobile phones, satellite communications, or other information systems etc.; this includes mHealth, telehealth, ePrescribing and the Electronic Health Record (EHR).

### mHealth

“Mobile health” refers to using mobile communications – i.e. smart phones, smart surfaces or tablets, mobile phones or Personal Digital Assistants (PDAs) – for health services and information.

### teleHealth

Is the delivery of health-related services and information via telecommunications technologies, for example over the telephone.

### ePrescribing

“Electronic prescribing” is the computer-based electronic generation, transmission and filing of a medical prescription. It allows prescribers to write prescriptions which can be retrieved by a pharmacy electronically without the need for a paper prescription. ePrescribing systems may also be linked or integrated to the reimbursement and claiming system.

### Electronic Health Record (EHR)

An “electronic health record” is an electronic compilation of core health data submitted by authorised healthcare providers (for example, a general practitioner).

### Summary Care Record (SCR)

A “Summary Care Record” is an electronic summary of key clinical information (including medicines, allergies and adverse reactions) about a patient sourced from the general practitioner’s record. It is used by authorised healthcare professionals (for example, community pharmacists in England), with the patient’s consent to support their care and treatment.

### Dossier Pharmaceutique (DP)

The “Dossier Pharmaceutique” (Pharmaceutical Record) is a confidential electronic medication record comprising recent medications (prescribed or over the counter) which is managed by community pharmacists (for example in Belgium and France) which can be accessed by other community pharmacists and authorised healthcare professionals (France) which is used to prevent medication and disease-related problems such as detecting interactions, medication abuse, duplication of therapy, monitoring of adherence, provision of pharmaceutical care and management of medication recalls and safety alerts.

### Pharmaceutical Care (PC)

“Pharmaceutical Care” is the pharmacist’s contribution to the care of individuals in order to optimise medicines use and improve health outcomes.

### eSkills

Is the name given to the concept of a pharmacist being able to effectively understand, use and implement eHealth, for example, as part of existing commitments to completing continuous professional development (CPD) activities.

<sup>2</sup> Adapted from the IPU Policy Statement on eHealth 2016, Dossier Pharmaceutique of Belgium and France, Summary Care Record from the UK and from the Pharmaceutical Care Network Europe  
[http://www.pcne.org//upload/files/3\\_PCNE\\_Definition\\_Position\\_Paper\\_final.pdf](http://www.pcne.org//upload/files/3_PCNE_Definition_Position_Paper_final.pdf)

# 1. Introduction

## The Digital Evolution (and Investment) in European Pharmacies

Pharmacists have a unique role to play in European health systems as experts in medicines who are located in the heart of the communities they serve. Advice, treatment or referral from a healthcare professional with five years of education and training can be accessed without an appointment, within 30 minutes for 98% of the European population<sup>3</sup>, including during extended opening hours and in emergency “on call” hours.

teleHealth has been practiced since the first healthcare professional engaged with their patients on the telephone. Subsequently, this was complemented with video consultations. Pharmacists have been utilising electronic medication records for almost 20 years, for example Belgium, which introduced them in the late 90’s to provide better patient care following successful computerisation of data for logistical and reimbursement purposes. Computerisation of pharmacies and the use of the internet have long been essential tools for pharmacists. For example as an information source for medicines and medical devices, ePrescription, invoicing, follow-up services for patients, traceability, authentication services and pharmacy services. As technology has evolved, the concept of eHealth developed and in recent years a new paradigm emerged, that of mHealth. mHealth, eHealth and teleHealth solutions are referred to simply as “eHealth” solutions for the remainder of this document.

Setting the scene today, 100% of pharmacies in Europe are computerised, 100% have an internet connection (of which 95.8% is broadband) and many utilise electronic dispensing software programs. This represents a multi-billion euro investment by the profession into ICT equipment, systems, maintenance and training. Pharmacies in 17 European countries dispense ePrescriptions and a further seven countries plan to implement ePrescribing in the near future. Out of the 17 countries, half of them operate ePrescribing systems at a national level<sup>4</sup>. Between 2013 and 2015 significant increases in the implementation and use of ePrescribing systems have been observed across Europe<sup>5</sup>. In Denmark, Greece, Estonia, FYR Macedonia, Spain, Sweden and Turkey more than 90% of prescriptions dispensed in community pharmacies are ePrescriptions, with Slovenia achieving almost 100%<sup>6</sup>. Pharmacies in Europe are well equipped to process ePrescriptions as prescribers increase the number of ePrescriptions.

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<sup>3</sup> PGEU Annual Report 2015

<sup>4</sup> PGEU Facts and Figures 2014-2015

<sup>5</sup> PGEU Facts and Figures 2014-15: Denmark (+22%), Spain (+27%), Finland (+62%), Italy (+64%), Portugal (+78%), Norway (+80%) and Slovenia (+96.3%)

<sup>6</sup> PGEU Facts and Figures 2014-15



Across Europe, governments have realised the potential benefits for increasing the use of ICT within their health systems. They include improving service organisation and delivery, better use of resources, increased productivity of health services, greater patient satisfaction and improved quality of care<sup>7</sup>.

The aim of this paper is to provide an overview of the state of eHealth solutions in European community pharmacies, highlight their key benefits and the main barriers for pharmacists, patients and health services alike, as well as to draw conclusions and make recommendations on the way forward.

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<sup>7</sup> Petrakaki D, Barber N, Waring J. The possibilities of technology in shaping healthcare professionals: (Re/De-) Professionalisation of pharmacists in England. *Soc. Sci. Med.* 2012;75:429–37.



## 2. Pharmacy Practice and eHealth Today

### eHealth and Governance

Pharmacists, as healthcare professionals, practice within both a legal regulatory framework and adhere to an ethical code of conduct. As such, they are committed to maintain the highest professional standards in their practice. The primary concerns for a pharmacist are the safety, wellbeing and confidentiality of their patients and the general population.

With the rapid development of eHealth innovations in Europe, pharmacists are responding accordingly to ensure patient confidentiality and data protection rules are followed. In Germany, for example, pharmacists adhere to a 10 point Code of Ethics<sup>8</sup> concerning eHealth innovations. In this code, issues of confidentiality, data protection, value for money and effectiveness are all cited as important factors concerning the use of eHealth services. Similarly in France, pharmacists adhere to a dedicated code of conduct concerning the storage, processing and use of patient data in ICT systems<sup>9</sup>.

As well as the legal and ethical frameworks that pharmacists practice within, Good Pharmacy Practices (GPPs) and Standard Operating Procedures (SoPs) are utilised by community pharmacists to support their autonomous professional decision making processes. For example The General Pharmaceutical Council of Spain has produced a number of GPPs containing SoPs with guidance and flowcharts on multiple areas of practice. Additionally, the Irish Pharmacy Union has produced a framework for Policy and Principles for Electronic Transfer of Prescriptions and ePrescribing to develop ePrescribing services.

Key to the successful implementation of eHealth innovations in Europe is obtaining the endorsement, support and commitment of the pharmacy professional associations. This has been and continues to be essential for the development of eHealth services. For example in Spain, the ePrescription systems are organised through and via ICT servers housed in provincial Chambers of Pharmacy that act as intermediaries between the health service and the community pharmacy.

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<sup>8</sup> [http://www.abda.de/uploads/tx\\_news/E\\_Health\\_Ethische\\_Grundsaeetze\\_ABDA\\_2015.pdf](http://www.abda.de/uploads/tx_news/E_Health_Ethische_Grundsaeetze_ABDA_2015.pdf)

<sup>9</sup> <http://www.ordre.pharmacien.fr/Communications/Publications-ordinales/Respect-de-la-confidentialite-des-donnees-de-patients>



## eHealth and eSkills

As previously mentioned, pharmacists are highly skilled professionals, but not just in the use of medicines, but also in the application of new technologies used in practice. Pharmacists have over twenty years of experience of evolving ICT and continue to update their ICT skills for the future.

In 2014, the European Commission published a study<sup>10</sup> mapping continuous professional development (CPD) activities for the five regulated healthcare professions in Europe. The study, undertaken by PGEU and our European “sister” organisations for the other four healthcare professionals showed that CPD is widely undertaken by pharmacists across Europe. A number of countries utilise online or blended learning techniques to keep their pharmacists up-to-date with new and emerging technologies and eHealth services, for example in England where pharmacists can access training in order to provide an ePrescription service<sup>11</sup>.

Pharmacists are one of the five healthcare professionals (doctors, nurses, midwives, dentists and pharmacists) regulated under the Directive on the Recognition of Professional Qualifications [Directive 2013/55/EU] (RPQ Directive). The PGEU recently drew-up a Joint Statement with the European Association of Faculties of Pharmacy (EAFP) and the European Pharmaceutical Students' Association (EPSA) relating to future modifications to the update of annexes, in particular Annex 5.6.1 describing the list of courses of training for pharmacists and Article 44. 3 describing the knowledge and skills that need to be acquired during the training of pharmacists. The Joint Statement proposes (among other modifications reflecting current practice), that any future revisions should include text stating that pharmacists should have adequate knowledge on information management and technology to deal with record keeping obligations and medicines and medical devices' verification systems.

In February 2016, the Delegated Acts of the Falsified Medicines Directive<sup>12</sup> (FMD) were published, signalling the countdown to establish a European Medicines Verification System to prevent entry of “falsified” medicines into the European medicines supply chain. Community pharmacists will need to use and implement the required “safety features” and associated software / hardware in what is the most significant European pharmacy practice and ICT project in a generation. In addition, new EU law<sup>13</sup> and a number of EU proposals<sup>14</sup> establish obligations on recording and

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<sup>10</sup> [http://ec.europa.eu/health/workforce/docs/cpd\\_mapping\\_report\\_en.pdf](http://ec.europa.eu/health/workforce/docs/cpd_mapping_report_en.pdf)

<sup>11</sup> <http://systems.digital.nhs.uk/eps/dispensing/pharmatraining>

<sup>12</sup> Article 54a (2), (d) Directive 2011/62/EU

<sup>13</sup> Article 59 (2) of Directive 2001/83/EC as amended by modification introduced by Directive 2010/84/EU, Chapter 4, Article 18a (2), second paragraph

<sup>14</sup> COM (2014) 558 final proposal for Regulation on veterinary medicinal products and COM/2012/0542 final proposal for Regulation on medical devices and COM/2012/0541 final Proposal for a Regulation on in vitro diagnostic medical devices





electronic recording that may require acquisition of new knowledge of information management and technology processes.

## eHealth and European Policy

On behalf of European community pharmacists, PGEU has been involved in a number of consultations and initiatives at European level.

In June 2014 in our response<sup>15</sup> to the European Commission's "Green Paper on mHealth"<sup>16</sup>, PGEU called for better protection of data generated by mHealth apps and asked the Commission to develop Guidelines in connection with the lifestyle app/Medical Device distinction. Additionally, the PGEU called upon developers to ensure end users or facilitators of eHealth products (i.e. patients and healthcare professionals) are consulted during the design, evaluation and implementation phases to ensure they are fit for practice.

PGEU has previously been a partner in the former EU eHealth Network Governance Initiative (eHGI) Joint Action, in particular contributing to the development of the Guidelines on ePrescriptions Dataset for Electronic Exchange under Cross-border Directive 2011/24/EU<sup>17</sup>. The Guidelines on ePrescriptions continue to be revised in the new European eHealth Joint Action (JAesHN)<sup>18</sup> and PGEU continues to follow this process with interest as a member of the European Commission's eHealth Stakeholder Group (eHSG).

Key points from the PGEU's response to the 2014 Commission Green Paper on mHealth
Public confidence in the protection of data key to successful deployment
This requires both data minimisation and robust approaches to the granting of consent by patients
The Commission needs to develop its work on Guidelines in connection with the lifestyle app/Medical Device distinction
Review processes for apps should be encouraged
A number of innovative mHealth solutions are being developed by community pharmacists across Europe
Clinical and cost effectiveness are essential
More work needs to be undertaken to better understand the barriers to implementation and take up of mHealth

<sup>15</sup> <http://pgeu.eu/en/policy/9:e-health.html>

<sup>16</sup> <https://ec.europa.eu/digital-single-market/en/public-consultation-green-paper-mobile-health>

<sup>17</sup> [http://ec.europa.eu/health/ehealth/docs/eprescription\\_guidelines\\_en.pdf](http://ec.europa.eu/health/ehealth/docs/eprescription_guidelines_en.pdf)

<sup>18</sup> [http://ec.europa.eu/health/ehealth/docs/guidelines\\_patient\\_summary\\_en.pdf](http://ec.europa.eu/health/ehealth/docs/guidelines_patient_summary_en.pdf)



## eHealth and Pharmaceutical Care

Today, many pharmacists use eHealth tools on a daily basis, whether it is dispensing electronic prescriptions, checking for medication interactions when accessing electronic medication records, providing support for adherence via a mobile app or telephone call, or acting as the patient's entry point into the health system. eHealth tools used in community pharmacies can be considered under the following themes:



eHealth services and systems can act as a catalyst to the redesign of traditional health services and facilitate the implementation and development of innovative dispensing practices, pharmaceutical care and new pharmacy services. eHealth innovations have been identified as enablers of transition from traditional institutional-centred healthcare to a more patient-centred approach<sup>19</sup>. These five themes are now explored in the next chapter, highlighting the benefits of eHealth to pharmacists, patients, fellow healthcare professionals and health service providers.

<sup>19</sup> 3. Kuhn KA, Giuse DA, Lapão L, Wurst SHR. Expanding the scope of health information systems: From hospitals to regional networks, to national infrastructures, and beyond. *Methods Inf. Med.* 2007. p. 500–2.



## 3. Benefits of eHealth

*Note: all items discussed below “in inverted commas” can be found in the Annex in detail.*

### Accessibility

In several countries (“Mobile Pharmacy App” - Austria, “pharmacie.be / apotheek.be” – Belgium, “Open access e-platform” – Bulgaria, “ékárnu” – Czech Republic, “Farmácias Portuguesas” - Portugal and “FASS” - Sweden), mobile apps developed by national pharmacy / pharmacist associations are available which can ‘geo-locate’ the nearest pharmacy. Some mobile apps (Austria, Portugal and Spain) also provide / store health and medication information and in Sweden, users can even check the local stock of their required product with the app. In the Czech Republic it is possible to identify pharmacies participating in various specific public health campaigns via the app. In Denmark, a 24/7 telephone, online “Chat and Video Consultation” service is operated by pharmacies allowing patients and the general public access to information on medicines and health from a pharmacist.

In the Netherlands, a publically accessible online database of medicines which are in short supply is available. The system, called “Farmanco”, is hosted and governed by KNMP – the Royal Dutch Pharmaceutical Association. The submission system is open to reports from manufacturers, wholesalers, pharmacists, other healthcare professionals and patients. Submissions are usually made by pharmacies and each submission is checked by the respective manufacturer. With this system, patients and professionals are able to check the reason for the shortage and how long it is expected to last, allowing for alternative arrangements to be made to ensure the patient receives continuous care and supply of medication.

In Switzerland, family physicians and community pharmacists collaborate to provide care through the pharmacy in the “netCare” telemedicine service. This collaboration is a potential solution in the areas with limited accessibility to other health services and additionally can provide relief to constrained health services. The pharmacy is used as the point of access to the healthcare system. Initial triage takes place in the pharmacy by the pharmacist and the patient either receives treatment by the pharmacist, a video consultation in the pharmacy with a physician, referral to a physician for a face-to-face consultation or referral to acute care.

In Italy, the pharmacy is also used as an electronic point of access into the healthcare system in the “platform / CUP” project, which is established in the majority of Italian regions. Patients can go to their nearest pharmacy to book a visit to a National Health Service (NHS) specialist doctor or to book a range of tests in an NHS or accredited laboratory.



## Health Literacy & Self-care

More than 81% of European households have access to the internet<sup>20</sup> and many use the internet to acquire health and medicines information. The internet provides a virtually limitless set of tools and opportunities for improving one's health, provided users are health literate (and that the tools are robustly validated and approved). It is well known that health literacy is a major contributor to health outcomes<sup>21</sup>. On the contrary, low health literacy and resulting problems such as difficulty following medication instructions or understanding patient information leaflets are often associated with poor health outcomes<sup>22</sup>. Additionally, tools which are not appropriately validated or approved present a risk to users who may not be able to navigate through the myriad of inappropriate or potentially unsafe tools.

Community pharmacists are contributing to the availability of trusted, patient-friendly, patient-centred online health information sources, and have developed number of eHealth tools<sup>23</sup> that aim to support patients with different health literacy levels to make informed choices. It has been cited that taking a patient-centred approach during healthcare service development allows the service to respond to the individual patient's needs and persuades patients to have a more active role in managing their disease<sup>24</sup>.

In France, a text messaging service ("Observia") is in operation to provide health and medicines information on aspects of health promotion and specific chronic disease management. Additionally, eHealth innovations are also widening access to health services and medicines information for the visually or dextrally impaired user ("Mobile Pharmacy App" - Austria, "Farmácias Portuguesas" - Portugal, "Medicamento Accesible PLUS App" - Spain). In such cases, the apps are compatible with devices' built-in screen readers and also eliminate the fuss of opening and navigating a patient information leaflet by allowing the relevant information to be obtained simply by taking a photo of the barcode.

Pharmacists have also benefitted from similar applications over the past two decades with the integration of prompts, reminders and medication information alerts at the point of dispensing within pharmacy software systems. "Bot PLUS 2.0" for example, has been available for more than thirty years providing quality and up-to-date information on all the medications authorised and marketed in Spain.

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<sup>20</sup> [http://ec.europa.eu/eurostat/statistics-explained/index.php/Information\\_society\\_statistics\\_-\\_households\\_and\\_individuals#Internet\\_access](http://ec.europa.eu/eurostat/statistics-explained/index.php/Information_society_statistics_-_households_and_individuals#Internet_access)

<sup>21</sup> Bopp M, Minder CE (2003), Mortality by education in German speaking Switzerland, 1990-1997: results from the Swiss National Cohort; *International Journal of Epidemiology*; 32:346-354

<sup>22</sup> Berkman ND et al. (2004), Literacy and Health Outcomes; Agency for Healthcare Research and Quality (AHRQ); Rockville, MD

<sup>23</sup> UK <http://www.treatyourselfbetter.co.uk/>; PT <http://www.usoresponsaveldomedicamento.com/>

<sup>24</sup> Armstrong N, Powell J. Preliminary test of an Internet-based diabetes self management tool. *J. Telemed. Telecare*. 2008;14:114-6.



## Adherence & Chronic Disease Management

It has been demonstrated by researchers at the Netherlands Institute for Health Services Research that electronic reminders, (such as text messages, pagers and audio-visual solutions) improve medicines adherence by 14%<sup>25</sup>. Electronic reminders are widely used in pharmacy practice across Europe (“Mobile Pharmacy App” - Austria, “Online Prescription Overview App” – Denmark, “Observia” and “DO-Pill” – France).

In Spain, the Medicines Review with Follow-up Service can be performed and recorded through “Bot PLUS 2.0 – Module for Pharmaceutical Care Services”. This software enables community pharmacists to manage the complete medication of a patient including the detection of possible medication related problems such as adverse events, interactions, adherence problems, etc., and keep a record of them together with the intervention conducted in order to solve the problem.

In the UK, a “New Medicine Service” that can be performed via tele-consultation (a semi structured consultation with a pharmacist for patients prescribed new medications for chronic diseases) has been proven to increase adherence by 10%<sup>26</sup>. In Denmark a “Medical Reminder App” is available for patients who wish to receive reminders to take their medications. This user programmable app also allows recording of other health data such as blood glucose, blood pressure, weight and can send information to their email if desired.

In France, a teleconsultation service “Telemedinov” is hosted in community pharmacies that aims to monitor both acute and chronic conditions (angina, otitis, diabetes, heart failure, hypertension, dermatological conditions). The service’s success is based on the creation of value through new interprofessional cooperation schemes, secured shared access to information (medical and pharmaceutical records), secure ePrescription and electronic transmission of invoices. An assessment of the service showed that the model significantly reduced costs while offering the same clinical outcomes when compared to traditional services<sup>27</sup>.

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<sup>25</sup> Vervloet M, Linn AJ, van Weert JCM, de Bakker DH, Bouvy ML and van Dijk L. The effectiveness of interventions using electronic reminders to improve adherence to chronic medication: a systematic review of the literature. 2011. J Am Med Inform Assoc doi:10.1136/amiajnl-2011-000748

<sup>26</sup> <http://www.nottingham.ac.uk/~pazmjb/nms/>

<sup>27</sup> <http://www.telemedinov.fr/>



## Patient Safety & Quality of Care

Interventions by pharmacists during the dispensing process have always been a key feature of patient safety. The practice of pharmacy-held electronic patient medication records is more than 20 years old; however unless shared between all community pharmacies, and with other healthcare professionals involved, the full potential for patient safety and quality of care remains unfulfilled<sup>28</sup>.

In Belgium and France, pharmacists manage a shared patient medication record (“Dossier Pharmaceutique”) which contains a list of their patients’ recent medications (prescription and over-the-counter). These records are used to screen for potential interactions and contraindications and can also be used to convey information to professionals and patients, and facilitate safety-related actions (e.g. medication recalls or safety alerts). In France this shared record is also accessible to other healthcare professionals (hospital physicians) and community pharmacists in France and Belgium have both read and write access. Similarly in England, pharmacists (and other healthcare professionals) have access to a “Summary Care Record”, which displays the patient’s current medications, known allergies and previous adverse drug interactions, again improving patient safety and quality of care<sup>29</sup>.

Evidence shows that shared computerised EHRs are effective in reducing a range of medication errors in primary care<sup>30</sup>. As EHRs are usually held by the patient’s family physician, it is important that they are linked with the ePrescribing system and pharmacy-held patient medication records. When this is achieved, healthcare professionals involved in patient care (including pharmacists) can access necessary patient information to provide safe and effective care, not just prescription information. Allowing pharmacists to securely access and contribute to patient histories, diagnoses, and medication information (with patient consent and appropriate safeguards) can reduce medication errors, interactions and treatment duplication. Unfortunately, too often pharmacists are denied access to shared patient health and medication records. This is a missed opportunity to improve patient safety and quality of care<sup>31</sup>.

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<sup>28</sup> PGEU Statement on eHEALTH SOLUTIONS IN THE EU COMMUNITY PHARMACIES: helping to realise professional potential <http://www.pgeu.eu/en/policy/9-e-health.html>

<sup>29</sup> <http://systems.hscic.gov.uk/scr>

<sup>30</sup> A pharmacist-led information technology intervention for medication errors (PINCER): a multicentre, cluster randomised, controlled trial and cost-effectiveness analysis. Avery A.J., et al. The Lancet, Volume 379, Issue 9823, Pages 1310 - 1319, 7 April 2012 doi: 10.1016/S0140-6736(11) 61817-5.

<sup>31</sup> <http://systems.hscic.gov.uk/scr/benefits>

## Primary Care & Multi-professional Collaboration

eHealth tools support collaboration within primary healthcare teams and enhance collaboration with secondary healthcare professionals. Examples of this can be seen in the “Dossier Pharmaceutique” in Belgium and France, the “netCare” service in Switzerland and the “platform/CUP” initiative in Italy.

With the increasing burden of chronic diseases, healthcare systems are allocating major roles to healthcare professionals such as pharmacists and nurses<sup>32</sup>, and it has been cited that communication between healthcare professionals and patients is essential for their effective deployment<sup>33</sup>. When shared, eHealth records provide opportunities for pharmacists not only to make informed interventions, but also to significantly improve communication within the healthcare team and healthcare system<sup>34</sup>. The use of ICT and eHealth services in primary care will increasingly be part of future healthcare systems, with greater multi-professional collaboration demanding better synergies between services and infrastructures<sup>35</sup>.

Currently however, eHealth solutions are fragmented at the regional, national and European levels. Interoperability barriers exist between different solutions, professionals, between professionals and authorities and between regions and countries.

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<sup>32</sup> Kennie-Kaulbach N, Farrell B, Ward N, Johnston S, Gubbels A, Eguale T, et al. Pharmacist provision of primary health care: a modified Delphi validation of pharmacists' competencies. *BMC Fam. Pract.* 2012. p. 27.

<sup>33</sup> Santana S. Tendências na utilização da internet: Para questões de saúde e doença em Portugal 2005-2007. *Acta Med. Port.* 2009;22:5–14.

<sup>34</sup> <http://www.ordre.pharmacien.fr/Communications/Communiqués-de-presse/Evaluation-du-DP-de-sa-mise-en-oeuvres-Interventions-Pharmaceutiques>

<sup>35</sup> Kreps GL, Neuhauser L. New directions in eHealth communication: Opportunities and challenges. *Patient Educ. Couns.* 2010;78:329–36.



## 4. Conclusions & Recommendations

### Conclusions – the good news

Since the beginning of community pharmacy computerisation in the 1990s, the profession has demonstrated its willingness to adopt innovative technologies in practice to offer the highest standard of pharmacy services. In the area of eHealth, no other healthcare profession has invested more than community pharmacy in terms of its own funds. It has developed the necessary infrastructure and culture to implement innovative eHealth technologies with the ultimate goal to deliver significant benefits to the public.

In conclusion:

- Pharmacists practice within legal, regulatory and ethical frameworks and are supported by the use of best practices in provision of their services including when using eHealth tools;
- Pharmacists have made significant investment into ICT and eHealth over the past 20 years and continue to develop their knowledge, skills and experience as necessary;
- Policy makers, ICT developers and other healthcare professionals should engage with pharmacists as experienced eHealth users to develop eHealth services at local, regional or national levels as appropriate;
- Pharmacists, who have traditionally been a highly accessible healthcare professional in the heart of local communities, have embraced the digital evolution and are now also supporting accessibility to healthcare and medicines electronically;
- Pharmacists, long-established in supporting self-care, are now also supporting their patients and the public to increase their health literacy and eHealth offers new ways to engage with patients;
- Pharmacists, the experts in medicines, are utilising ICT and eHealth tools to increase adherence and reduce costs within the health system;
- Pharmacists, the last point of contact before a medicine is taken, are strengthening patient safety and quality of care by sharing pharmaceutical records and gaining access to electronic health records;
- Pharmacists, with their proximity to the patient, established relationships with other healthcare professionals and existing ICT and eHealth infrastructure, can be the link between several of the various healthcare services and organisations.





## Barriers – the challenges ahead

The development and expansion of eHealth is expected to bring significant benefits to patient care and health systems performance<sup>36</sup> and the global eHealth market is expected to reach USD 308.0 billion by 2022<sup>37</sup>; however, solutions are fragmented at the national and European level. Despite recent progress, many ePrescription systems in Europe are not deployed with full coverage, both within and beyond national borders. Interoperability barriers exist between different solutions, professionals, between professionals and authorities and between regions and countries.

Whilst European guidelines have been developed on eHealth, they are technically focused, do not involve end-users significantly and do not greatly consider fundamental aspects of healthcare practice. Healthcare institutions and healthcare professionals face a continuous need to update and expand health facilities, technology and equipment, at great expense.

## Opportunities

As previously mentioned, professional organisations are essential in the development of eHealth services in community pharmacies. Fostering innovation in community pharmacy is fundamental in order to create a coordinated and collaborative network providing effective healthcare services. These organisations offer an existing network of professional and technical expertise which can take full advantage of the opportunities offered by ICT, with the view to continuously improve current pharmacy practice.

Consideration should also be given to the importance of real-world evidence data generated from both professional interventions and from different information systems. This information can be used for the benefit of citizens' health and the efficiency of the national health systems<sup>38</sup>.

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<sup>36</sup> <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52012DC0736>

<sup>37</sup> <https://globenewswire.com/news-release/2015/11/18/788256/0/en/eHealth-Market-Will-Reach-308-0-Billion-By-2022-Grand-View-Research-Inc.html>

<sup>38</sup> As an illustrative example, see “nodofarma” an initiative of the General Pharmaceutical Council of Spain - Annex

## Recommendations

1. Policy makers, ICT developers and other healthcare professionals should engage with pharmacists as experienced users to develop eHealth policies and services at local, regional or national levels as appropriate;
2. eHealth should be integrated into health systems complementing and supporting existing practice, with pharmacy potentially as a link between several services, organisations and infrastructures;
3. Electronic health records should be linked with ePrescribing systems, thus allowing healthcare professionals involved in patient care to access necessary patient information from the electronic health record. There also should be a facility to update the electronic health record with relevant information when necessary, in order to increase the capacity to identify and address potential medication and patient safety-related issues;
4. Communication and collaboration between patients, healthcare professionals and ICT developers is crucial to obtain the full potential of eHealth technologies and to build confidence and trust. When developing guidelines for eHealth, policy makers are called upon to meaningfully involve their end users;
5. The community pharmacy profession should be recognised, supported and adequately reimbursed for their continuous investment in eHealth, ICT infrastructure, eSkills of the workforce and contribution to improved health outcomes and reduced healthcare costs.