

EAHP Position Paper on Digital Health

Making a difference by advancing patient care with the help of digitalisation

The roles of hospital pharmacists are changing and so is the environment they work in. Digitalisation is impacting a vast spectrum of healthcare services ranging from electronic prescribing, medical records and automation to text message prompts that remind patients to take their medicines and artificial intelligence revolutionising treatment. The COVID-19 pandemic has accelerated the speed with which digitalisation to support healthcare delivery is introduced in hospitals, but there are still considerable gaps due to the lack of uniformity and interoperability across Europe.

In order for healthcare electronic services to be safe, effective and add genuine value to the system, the European Association of Hospital Pharmacists (EAHP) believes that these services should be developed in close collaboration with healthcare professionals including hospital pharmacists and patients. To ensure that hospital pharmacists are capable of fully utilising all the digitalisation benefits for their patients and the functioning of the healthcare system, investments in infrastructure, software and hardware are needed across Europe.

Consequently, EAHP's member associations call upon national governments and health systems across Europe to work towards adequately making provisions for hospital pharmacists and the patients they serve for the digital future of healthcare.

EAHP strongly encourages national governments and hospital administrations together with the European institutions to take all necessary steps to assure a uniform information structure for health data and clear standards for the interoperability of information technology systems used in healthcare.

EAHP calls on the European Commission and Member States to establish funding programmes that support hospitals with updating their digital infrastructure.

EAHP urges the European Commission and national governments to advance the systematic and EU-wide achievement of electronic prescribing, decision support systems, administration and the use of electronic health records by hospital pharmacists and other healthcare professionals in order to enable closed-loop medication management.

EAHP recommends the use of patient-related logistic systems and adding requirements for barcoding of medicines to the single units in primary packages to enable universal use of bedside scanning in European hospitals, thus improving patient safety.

EAHP advocates for the complementary use of paper and electronic patient information leaflets where access of patients to this information cannot be ensured otherwise.

EAHP recommends raising awareness among users and appropriate regulatory oversight mechanisms for digital health applications to ensure that they have a positive impact and adequately protect patient data.

EAHP urges education providers to make available appropriate training opportunities to healthcare professionals and students that focus on both boosting their digital skills and promoting digital health literacy among patients and healthcare professionals.

EAHP calls on decision-makers at both the national and the European levels to ensure the involvement of hospital pharmacists in the design, development and specification of parameters as well as the evaluation and maintenance of ICT within the medicines processes.

An urgent need for investments to improve the digital infrastructure in hospitals

In view of the increase in digitalisation in healthcare provision and the future adoption of a European Health Data Space (EHDS) hospital pharmacies across Europe need to be provided with proper soft- and hardware solutions as well as systematic improvements, including sufficient space to host digital solutions within the pharmacy premises. When introducing new systems in hospitals, software producers should be obliged to connect the established and the new systems with each other guaranteeing interoperability between the two.

Digital tools are reliant on standardised, integrative and interoperable solutions. For example, the EHDS recognises that the improved efficiency of healthcare services and patient care relies on integrated and interoperable data that can be utilised by the growing number of digital healthcare tools. To use digital tools like the EHDS, hospital pharmacies require integrated digital infrastructures that are versatile and easy to install and use. In addition, they must be interoperable primarily across hospital systems, secondly within countries between hospitals and ambulatory care systems and lastly across borders in Europe.¹ To support this, standardised data formats (e.g. FHIR², IHE³, UNICOM⁴) must be adopted.⁵ This includes standard specifications for the digital management of medication data across the healthcare environment to guarantee seamless care between healthcare settings. **EAHP strongly encourages national governments and hospital administrations together with the European institutions to take all necessary steps to assure a uniform data structure for health data and clear standards for the interoperability of information technology systems used in healthcare.**

In addition to interoperability, infrastructure plays a crucial role in the success of the digital revolution in healthcare. Many hospitals are still not equipped with the appropriate IT infrastructure.⁶ This may also include electronic medication cabinets that can increase efficiency on hospital wards, reduce the risk of medication errors and monitor as well as regulate the use of specific medicines, such as narcotics.⁷ **EAHP calls on the European Commission and Member States to establish funding programmes that support hospitals with updating their digital infrastructure.**

Potential of digitalisation for improving patient safety

Patient safety and the quality of care are a priority for hospital pharmacists all across Europe. Digitalisation has the potential to enhance patient safety but not all healthcare professionals can make use of this potential. Not all hospital pharmacists are provided with access to (electronic) health records. As a result, ensuring that patients receive the proper medication, providing medication reconciliation services and monitoring the efficacy and safety of medicines by pharmacists is being hindered.⁸ Changes are needed across Europe to provide pharmacists with adequate access to patient information, especially since this access can help reduce patients' risk for medication-related problems and improve the quality of their

¹ European Commission. Electronic cross-border health service. Available at: https://health.ec.europa.eu/ehealth-digital-health-and-care/electronic-cross-border-health-services_en (last visited on 10 June 2023).

² Fast Health Interoperability Resources (FHIR). Available at: <https://fhir.org> (last visited on 10 June 2023).

³ Integrating Healthcare Enterprise (IHE). Available at: <https://www.ihe.net> (last visited on 10 June 2023).

⁴ UNICOM project (Up-scaling the global univocal identification of medicines). Available at: <https://unicom-project.eu> (last visited on 10 June 2023).

⁵ European Medicines Agency. Substance and product data management services. Available at: <https://www.ema.europa.eu/en/human-regulatory/research-development/data-medicines-iso-idmp-standards/spor-master-data/substance-product-data-management-services#eu-idmp-implementation-guide-section> (last visited on 10 June 2023).

⁶ EAHP Survey. The future potential of electronic product information (ePI). 2022. Available at: https://www.eahp.eu/sites/default/files/eahp_survey_report_the_future_potential_of_electronic_product_information.pdf (last visited on 10 June 2023).

⁷ B.C. Jr McCarthy, M. Ferker. Implementation and optimization of automated dispensing cabinet technology. Am J Health Syst Pharm. 2016 Oct 1;73(19):1531-6. doi: 10.2146/ajhp150531.

⁸ D.S. Craddock, R.G. Hall. Pharmacists without Access to the EHR: Practicing with One Hand Tied Behind Our Backs. Innov Pharm. 2021 Jun 10;12(3):10.24926/iip.v12i3.4141. doi: 10.24926/iip.v12i3.4141.

care.⁹ The medication data must be structured in order to enable patient-related logistics (e.g. automated unit-dose-supply) in the sense of closed-loop medication management. Digitisation at the hospital level should also extend toward management processes. **EAHP urges the European Commission and national governments to advance the systematic and EU-wide achievement of electronic prescribing, decision support systems, administration and the use of electronic health records by hospital pharmacists and other healthcare professionals in order to enable closed-loop medication management.**

To use the full potential of electronic prescribing systems their implementation needs to be carefully planned and executed. Procedures need to be established that outline how data gathered and evaluated with the electronic prescribing system could be used to improve medication safety.¹⁰

Implementing electronic prescribing, supporting (patient-related) logistic processes, and administration through for example bedside scanning and data analysis, contribute to the patient safety cycle, and promote accurate electronic patient record keeping. Jointly these advancements offer significant opportunities for improving safety, quality and efficiency in the delivery of patient care, particularly (but not exclusively) in relation to their role in preventing medication errors and improving interface management of patient care. Scanning both patient and medication information at the bedside provides assurance that the medicine which is to be given is indeed the right medicine for the right patient, being administered by the right route, and being given at the right time. Studies indicate such practice can reduce medication error by over 40%.¹¹ **EAHP recommends the use of patient-related logistic systems and adding requirements for barcoding of medicines to the single units in primary packages to enable universal use of bedside scanning in European hospitals, thus improving patient safety.**

Electronic product information (ePI) has the potential to facilitate easier and faster access to product information. However, the implementation must take into account the current inadequate IT infrastructures as well as the very broad structural deficits of hospitals in Europe regarding the technical equipment to use ePI in daily routine. In addition, the use of ePI in Europe should not be to the detriment of patient access to essential information included in the patient leaflet. The access to ePI should be available through a data matrix code. **EAHP advocates for the complementary use of paper and electronic patient information leaflets where access of patients to this information cannot be ensured otherwise.**

Facilitating patient empowerment and self-management while safeguarding patient information

Undoubtedly many potential opportunities stem from both current and future health applications and the vast amounts of data collected by health systems. Care and vigilance must also be taken in relation to potential 'rogue' or unregulated applications, that have not received appropriate oversight in their construction and have the negative impact of offering contradictory, inaccurate or low-quality advice to patients. The importance of protecting patient data is a key consideration and stringent data protection rules must be adhered to. **EAHP recommends raising awareness among users and appropriate regulatory oversight mechanisms for digital health applications to ensure that they have a positive impact and adequately protect patient data.**

Provision of appropriate training opportunities to healthcare professionals

Digital technologies are advancing rapidly, often outpacing both regulatory systems and health professional education. A study conducted in the UK showed that digital capabilities are important for the clinical practice of pharmacists with the widespread use of digital technologies and proposed the

⁹ M.K. Millonig, T.L. Jackson, W.M. Ellis. Improving medication use through pharmacists' access to patient-specific health care information. *J Am Pharm Assoc (Wash)*. 2002 Jul-Aug;42(4):638-45. doi: 10.1331/108658002763029616.

¹⁰ National Health Service's e-Prescribing Risk and Safety Evaluation (ePRaSE) tool. Available at: <http://www.eprescribingtoolkit.com/wp-content/uploads/2018/04/180411-eP-masterclass-presentation-Introducing-ePRaSE-Newcastle.pdf> (last visited on 10 June 2023).

¹¹ E.G. Poon, et al. Effect of Bar-Code Technology on the Safety of Medication Administration. *New England Journal of Medicine*, 2010. 362(18): p. 1698-1707.

establishment of a Digital Capabilities Framework to assess levels of digital skills.¹² There is therefore a need for governments and health systems to give adequate support to health professionals in keeping their digital skills and competencies up to date.

A specific focus should be put on the promotion of digital health literacy, especially since differences in digital health skills of both healthcare professionals and patients can impact healthcare delivery.¹³ Education providers need to ensure that both the pharmacy curricula and continuing professional education provide sufficient knowledge of IT and digital technology as well as skills in their practical application to both students and healthcare professionals. This training should go hand in hand with conducting the implementation and development of new technological innovations and processes within health systems, including the limitations and use of artificial intelligence (AI), with healthcare professional training needs in mind. Existing regulations – like the Medical Device Regulations^{14, 15} - should be considered as a safeguard for applications and software. Since these do not fully extend to AI-based medical device choices, additional safeguards should be put in place by the proposal for the Artificial Intelligence Act.¹⁶ **EAHP urges education providers to make available appropriate training opportunities to healthcare professionals and students that focus on both boosting their digital skills and promoting digital health literacy among patients and healthcare professionals.**

Need to involve hospital pharmacists in hospital information communication and technology (ICT) design and specification

The European Statements of Hospital Pharmacy¹⁷, include in Section 1.7 a clear call to health system managers that: *“Hospital pharmacists must be involved in the design, specification of parameters and evaluation of ICT within the medicines processes. This will ensure that pharmacy services are integrated within the general Information and Communication Technology (ICT) framework of the hospital including electronic health (eHealth) and mobile health (mHealth) procedures.”* This position paper reemphasises that call and reiterates the support it has received not only from the hospital pharmacy profession but other healthcare professionals and patient interest. Consequently, **EAHP calls on decision-makers at both the national and the European levels to ensure the involvement of hospital pharmacists in the design, development and specification of parameters as well as the evaluation and maintenance of ICT within the medicines processes.**

¹² G. Lee, E. Caton, A. Ding. Evaluating digital competencies for pharmacists. *Res Social Adm Pharm.* 2023 May. 19(5):753-757. doi: 10.1016/j.sapharm.2023.01.012.

¹³ B. Smith. J.W. Magnani. New technologies, new disparities: The intersection of electronic health and digital health literacy. *Int J Cardiol.* 2019 Oct 1;292:280-282. doi: 10.1016/j.ijcard.2019.05.066.

¹⁴ Consolidated text: Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices, amending Directive 2001/83/EC, Regulation (EC) No 178/2002 and Regulation (EC) No 1223/2009 and repealing Council Directives 90/385/EEC and 93/42/EEC (Text with EEA relevance)Text with EEA relevance. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02017R0745-20230320> (last visited 10 June 2023).

¹⁵ Consolidated text: Regulation (EU) 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices and repealing Directive 98/79/EC and Commission Decision 2010/227/EU (Text with EEA relevance)Text with EEA relevance. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A02017R0746-20230320&qid=1686689023839> (last visited 10 June 2023).

¹⁶ Proposal for a Regulation of the European Parliament and of the Council laying down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending certain Union Legislative Acts. COM/2021/206 final. Available at: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex:52021PC0206> (last visited on 10 June 2023).

¹⁷ The European Statements of Hospital Pharmacy *Eur J Hosp Pharm* 2014;21:256-258.