

EPSA Position Paper on eHealth and Digital Skills

1. Executive Summary

The European Pharmaceutical Students' Association (EPSA) is a non-profit, non-governmental and non-political European association representing more than 100,000 pharmaceutical students and recent graduates. EPSA's members are 45 national and local pharmaceutical students' associations across 37 European countries.

The vision of the Association is to represent, reach and engage every single pharmaceutical student in Europe to collaborate on the development of the future of pharmacy and healthcare. The mission of the Association is to actively engage at student and professional level, bringing pharmacy, knowledge and students together while promoting personal development.

Therefore, EPSA closely follows matters of high relevance to pharmaceutical students, the future of their profession and their possibilities for professional development. Currently, one of the most important topics in healthcare that is of high relevance and should thus be monitored and followed by pharmaceutical students and youth is eHealth and digitalisation in healthcare. EPSA closely monitors their development and integration in pharmaceutical education and promptly follows their integration in society, focusing on public health.

This Position Paper aims to present the opinion of European pharmaceutical youth based on an assessment of knowledge on eHealth and digital skills through a survey conducted in Autumn 2017. The survey gathered the opinions and suggestions of 587 pharmaceutical students and recent graduates throughout Europe. In addition to this, this Position Paper integrates the outcomes of a recent debate held during the 10th edition of the EPSA Annual Reception hosted at the European Parliament in Brussels in 2019 on the topic of *"Digitalisation in healthcare and its challenges for the pharmaceutical profession"* focusing on *"continuous professional development as a tool to foster eHealth learning for patient centred care"*.

2. Introduction

The European Commission states that *"Digital solutions for health and care can increase the well being of millions of citizens and radically change the way health and care services are delivered to patients if designed purposefully and implemented in a cost-effective way."* in its Communication to the European Parliament, the Council and the European Economic and

Social Committee and the Committee of the Regions on *Enabling the digital transformation of health and care in the Digital Single Market - empowering citizens to build a healthier society*¹ “.

With this being the most recent communication on the subject, it is also possible to rephrase it as *“Digitalisation can promote health and prevent diseases and support the reform of health systems and their transitions to new care models centred on people’s needs”*.

However, that requires the *“involvement of multidisciplinary care teams with new or redesigned roles for care professionals, a health workforce of sufficient capacity and appropriate skills and the active cooperation between healthcare professionals and patients”*.

Nonetheless, when assessing such requirements, EPSA observes that comparing them with the current scenario, there is room for improvement and difficulties to be surpassed in order to achieve a well-prepared health workforce ready to manage the challenges brought by digitalisation and fully ready to collaborate in multidisciplinary teams.

3. Current Situation

Personal assessment of knowledge and skills

When referring to eHealth, it is first necessary to understand its meaning.

“‘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.; this includes mHealth, telehealth, ePrescribing and the Electronic Health Record (EHR).”²

According to a study carried by EPSA in the Autumn of 2017, when assessing their personal knowledge and skills on eHealth and digital skills, less than 15% of the respondents considered themselves aware of what eHealth is.

In the same assessment, when rating their digital skills (from no skills, under average, average, above average to very developed skills), almost 63% of respondents evaluated their digital skills as average or under average.

The fact that only a few respondents replied to this assessment with “no skills” can be explained by most students living and experiencing the modern society’s digitalisation on a daily basis, being surrounded by mobile phones, computers, web, and social media.

However, even if feeling unprepared or uncomfortable when it comes to the knowledge and digital skills, most pharmaceutical students recognise the role and the importance of digital skills in their lives, with 94% of the survey respondents supporting this claim. They refer to the digital revolution still being on the rise and to the future being based on digitalisation. Moreover, they also believe that digital skills will play an immense role in aiding pharmaceutical professionals to adapt faster to changing circumstances, optimise treatments and lower the burden on healthcare budgets, as well as to take the best advantage of technologies since everyday life is becoming more and more technology-dependent.

eHealth in the pharmaceutical studies

With its assessment, EPSA was able to verify that, across Europe, pharmaceutical studies are, in general, lacking education on eHealth.

As a highly educated healthcare workforce of tomorrow, pharmaceutical students are provided with highly specific knowledge and skills from various fields such as biology, physiology, chemistry and pharmacology which are the minimum basis required for their future in the pharmaceutical and healthcare sector. Nevertheless, such basis due to its high complexity covers, in most countries, 4 to 5 years of undergraduate studies. According to pharmaceutical youth³, the pharmaceutical curricula has not been able to follow the implementation of eHealth and digital skills.

Around three-quarters of respondents claim to have no or almost no education on eHealth while more than half do not even briefly become aware of the topic during their studies. According to the survey respondents, the countries with, at least, partly eHealth-related classes in some of their universities are Estonia, France, Norway, Poland, Slovenia, Spain, Sweden, and the United Kingdom while others have optional subjects in the field. Knowledge about programming as well as subjects on informatics and computer science are also left out of the European pharmaceutical curricula.

Although the vast majority of pharmaceutical students have experience and succeed in using the basic programmes such as Microsoft Word, PowerPoint and Excel, only a few feel comfortable with modern technology and are able to utilise and optimise it in a way that provides advanced healthcare services and upholds patients' trust.

With the lack of implementation of eHealth and digital skills in their curricula, pharmaceutical students try to obtain this knowledge elsewhere. They report on attending extracurricular sessions and formative activities such as lectures or workshops on, for example, the software

used in some fields of pharmacy, provided by pharmaceutical students' associations or students' councils, look for information themselves or read about the subject through publications.

Pharmaceutical students' associations, such as EPSA, try to complement the hard skills provided during pharmaceutical education by providing activities on other subjects deemed important for the future of the profession, such as eHealth and digital skills. Such activities include symposia, workshops, lectures and webinars. As an example, EPSA has organised four of its congresses on a topic related to eHealth and digital skills (35th EPSA Annual Congress 2012, "*The future of pharmacy*"; 38th EPSA Annual Congress 2015, "*Pharmacist of the 21st Century*", the 40th Annual Congress 2017, "*Healthcare, an innovative approach*" and the 14th EPSA Autumn Assembly 2017, "*Digital Revolution in healthcare*") and fostered two debates in the European Parliament during its Annual Reception on "*mHealth*" in 2014 and in February 2019 on "*Digitalisation in healthcare and its challenges for the pharmaceutical profession*" focusing on "*continuous professional development as a tool to foster eHealth learning for patient centred care*".

4. Attitude towards eHealth and digital skills

As previously mentioned, even if lacking specific eHealth subjects or advanced digital skills teachings in their education, students acquired the basic ICT (Information Communication Technologies) skills as digitally literate members of society. Besides the basic tools required to complete their studies, the current generation of pharmaceutical students live surrounded by portable devices and with full access to the web at almost any given time, being able to learn and develop a part of their digital skills almost unconsciously by being raised close to technology.

Furthermore, pharmaceutical students are quite aware of the importance of getting acquainted with eHealth and digital skills. Almost two-thirds of the survey respondents referred to regularly reading articles, news and following podcasts connected to eHealth and one-third of the students referred to also educating themselves by experimenting and using eHealth apps.

The study has shown that more than half of students use health apps as well as wearable devices (e. g. smartwatches) in their personal lives. Most of the apps used are fitness and exercise apps, apps for body weight control and apps for sleep monitoring. A considerable number of female students refer to using apps for contraceptive purposes or to follow their menstrual cycle, a rarity just a few years ago. This way, it is possible to say that the current

generation of pharmaceutical students is willing to explore, learn and adapt to new technologies and is open to integrating them in their daily lives.

Adding to their own use and experimentation with new technologies, the majority of pharmaceutical students believe that the use of “health apps” can benefit patients and improve their treatment and recovery. Survey respondents referred mostly to apps for scheduling medication plans or monitoring different parameters and disease stages that could empower the patient to better understand their condition and better follow their treatment. Almost 90% of students would recommend the use of health apps, however, with caution.

On the other hand, a quarter of the survey respondents are uncertain of the benefit of the “health apps” and devices. To result in benefit, an app must be user-friendly and the accuracy of the provided information must be guaranteed. The development of these apps must be done together with a healthcare professional or, at least, must take into account a healthcare professional’s point of view. The app must be adaptable and user-friendly to non-healthcare professionals. A part of the survey respondents also refers to the need of the patients to be accompanied by a healthcare professional during their treatment. They point out that while digital skills should complement healthcare professionals’ advice, they should not fully replace the contact with the healthcare professional as this could result in possible misinterpretation of the information or unnoticed inaccuracy of the app or device which would pose a risk to the patients’ health.

Impact of eHealth

When asked, more than 90% of survey respondents believe that eHealth and digitalisation of healthcare shall change the pharmaceutical curricula and pharmaceutical profession for the better.⁴ They claim that the new digital skills shall aid in better communication with patients and assist on issues, such as drug-related problems, which shall become easier to recognise and faster to solve. All in all, they believe that these tools will grant pharmacists more time for patients, to listen and talk to them and to provide a higher quality healthcare treatment.

However, some students also point out that it is important for digital skills to be used in the right, efficient and safe way. Therefore, healthcare professionals should be the ones facilitating the implementation of eHealth technology. Pharmaceutical professionals, along with other healthcare professionals, should not be replaced by technology.

eHealth and digitalisation of healthcare shall affect interprofessional collaboration relationships. Pharmaceutical students believe that collaboration with other healthcare professionals shall

result in improvements due to a facilitated flow of information with, for example, shared electronic health records which shall assist in guiding a patient through their treatment.

Moreover, with developments such as open access, scientific information and journals will become more readily available allowing faster access to the latest scientific developments and better quality of updated information during studies.

Dangers

Dangers related to eHealth are mostly related to quality insurance and safety, specifically with the possibility of misinformation due to possible incorrect information provided by the software or misinterpretation of the information by the patient himself.

Data protection is also one of major threats when it comes to eHealth since, to work optimally, it requires to be fed with data and generate data by itself which is, mostly, sensitive health data that can be misused.

Benefits

Most pharmaceutical students feel positive about the implementation of eHealth and digital skills in healthcare and in pharmaceutical curricula. This opinion is in line with the Eurobarometer's 460 *Attitudes Towards the impact of digitisation and automation on daily life*.⁵

They believe the new digital developments, if properly used, shall improve the access to healthcare for patients living in rural areas or unable to attend healthcare services with the desired regularity and shall also improve health literacy⁶ (as expressed in Eurobarometer 404 European Citizens' Digital Health Literacy as well) by providing user-friendly and interactive interfaces that provide reliable information and foster self-care by helping patients to monitor their health condition and treatment.

Given the fact that access to this data is provided, healthcare professionals can follow the patient's response to the therapy and tackle possible issues of side effects, non-adherence or noncompliance with the proposed therapeutic regimes sooner. This is one of the main examples of where eHealth and digital skills may complement the role of healthcare professionals but not replace them.

Finally, students believe that by fostering interprofessional collaboration, digital skills shall increase the quality and efficiency of care and contribute to more sustainable health systems⁷. With access to integrated patient information, healthcare professionals will be able to produce more accurate diagnostics and prescribe and provide more accurate treatments, thus reducing

the time burden and burden on healthcare budgets that unnecessary diagnostic tests, interventions and hospital (re)admissions bring.

5. The future of pharmaceutical curricula and education

Almost all survey respondents are willing to take classes related to eHealth, basic programming or on how to develop new services in the context of digitalisation in healthcare - from different mobile applications and wearable devices to robotic equipment.

As an example of practice, in the French pharmacy curricula, students must take a class on digital skills with an exam – the C2I (*Certificat internet et informatique*) organised by the French Ministry of Higher Education, Research and Innovation.⁸

Students expressed the desire to obtain a broad overview of eHealth and digital skills, referring to the possibilities of courses on the current regulatory context of eHealth and information systems used in healthcare, on the security of information, personal data and privacy concerns. They have also expressed the desire for opportunities to obtain advanced digital knowledge, such as basic programming and robotic technology.

They believe that such knowledge could be transmitted through courses that would integrate theory with practice. For higher efficiency, it was also suggested that such courses should preferably be delivered jointly by a pharmacist and a healthcare informatics expert. Moreover, they have also expressed the interest in taking some of these courses with other healthcare professionals, simulating the real-life professional experience.

Additionally, they have also expressed interest in the possibility of contact with digital skills through internships that would provide them with valuable insight on these subjects.

As PGEU, EAAP and EPSA have recognised before, measures should be taken into consideration when changing the European pharmaceutical curricula⁹. The Directive on the Recognition of Professional Qualifications [Directive 2013/55/EU]¹⁰ is still lacking some crucial competences, knowledge and skills for the training of pharmacists that need to be addressed in the Article 44.3, including the topics of eHealth and digitalisation. The proposal made by the aforementioned Associations would result in a modernised curricula as the aforementioned Article was last updated in 1985.

Nonetheless, medical and pharmaceutical sciences are constantly developing and knowledge in the healthcare field is exponentially growing year after year, with a pace that cannot be followed by the regulatory systems.

Additionally, the current curricula which are frequently classified as overburdening, providing mandatory extra classes would not necessarily be the ideal solution every time pharmaceutical students have to be acquainted with new developments. Pharmaceutical students mostly support having the possibility of attending open elective courses or conducting internships that could be managed alongside their studies.

EPSA recognises the importance of life-long learning and its vital role in professional development and a career path of a pharmacist, however, EPSA also believes that an inclusion of eHealth and digital skills in pharmaceutical curricula would result in improved knowledge of future healthcare professionals and have positive effects on healthcare systems as well as society as a whole.

Therefore, as one of the main outcomes of the discussion held in the European Parliament¹¹ in Brussels during the 10th EPSA Annual Reception in February 2019, continuous professional development is important to guarantee healthcare professionals are acquainted with new knowledge, refresh it and are up to date with new developments, changes and challenges.

eHealth and digital skills are constantly evolving and, sometimes the perspective of useful knowledge may drastically change during pharmaceutical studies. Therefore, education on digital skills in healthcare in the undergraduate pharmaceutical curricula is as important as the curricula and the teaching methods being oriented towards fostering a lifelong learning mentality at the University level and that opportunities, providing different knowledge and skills, are provided to individuals.

EPSA's position on eHealth and digital skills is also in line with EAHP's¹² position on eHealth and mHealth, *"There is (...)a need for governments and health systems to give adequate support to health professionals in keeping both their competencies in the area of eHealth/mHealth up to date"*.

To conclude, the European Pharmaceutical Students' Association (EPSA):

1. **Calls on educational institutions to include eHealth and digital skills in educational systems as an investment for the future and a possible sustainability measure for healthcare services.**
2. **Supports future trainings and education in the field of eHealth and digital skills, from utilisation and optimisation to benefits and dangers.**
3. **Urges the European Commission to implement the proposed changes listed in the PGEU, EAFF, EPSA, EIPG Statement on future modifications on the Directive on the Recognition of Professional Qualifications, with the proposed addition to Article 44.3 to provide the *'adequate knowledge on information management and technology to deal with record keeping obligations and medicines and medical devices' verification systems*'.**
4. **Urges policymakers to consider opinion and experience from pharmaceutical youth when shaping suggestions on curricula changes, especially concerning eHealth and digital skills.** These students are the future healthcare workforce and are the ones actually experiencing the discrepancy between the professional environment and the current curricula.
5. **Believes that pharmaceutical and other healthcare professionals should be at the core of the implementation of eHealth in current treatment protocols.** Pharmacists as highly educated, qualified and accessible healthcare professionals are crucial in this aspect.
6. **Proposes giving pharmaceutical and other healthcare professionals the tracking development role in regards to compliance, adherence, self-care, and affordability of healthcare due to the introduction of eHealth measures.**
7. **Calls on taking the opinion of pharmaceutical youth into consideration as part of the generation raised surrounded by digitalisation and technology.** They are the ones willing to learn in the first place and, furthermore, willing to introduce it to their older colleagues and patients.

References:

1. Communication to the European Parliament, the Council and the European Economic and Social Committee and the Committee of the Regions, on *Enabling the digital transformation of health and care in the Digital Single Market - empowering citizens to build a healthier society*. available at <https://ec.europa.eu/digital-single-market/en/news/communication-enabling-digital-transformation-health-and-care-digital-single-market-empowering>
2. *PGEU Statement: eHealth Solutions in European Community Pharmacies*, available at <https://www.pgeu.eu/en/library/94:pgeu-statement-on-ehealth-2010.html>
3. EPSA Methodology Booklet available at <https://www.epsa-online.org/methodology-booklet/>
4. <https://ec.europa.eu/digital-single-market/en/news/staff-working-document-enabling-digital-transformation-health-and-care-digital-single-market>
5. Eurobarometer 460 Attitudes *Towards the impact of digitisation and automation on daily life* available at http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_404_en.pdf
6. Eurobarometer 404 *European Citizens' Digital Health Literacy* available at http://ec.europa.eu/commfrontoffice/publicopinion/flash/fl_404_en.pdf
7. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – *eHealth Action Plan 2012-2020 - Innovative healthcare for the 21st century* available at <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52012DC0736>
8. http://www.enseignementsup-recherche.gouv.fr/pid20536/bulletin-officiel.html?cid_bo=71555&cbo=1
9. *PGEU EAHP and EPSA Statement on future modifications on the Directive on the Recognition* available at <https://farmacia.ugr.es/noticias/EAHP/08-11-15commentsDirectiveshared.pdf>
10. Directive 2013/55/EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36/EC on the recognition of professional qualifications and Regulation (EU) No 1024/2012 on administrative cooperation through the Internal Market Information System available for <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32013L0055>
11. *10th EPSA Annual Reception Educational and Advocacy Outcomes* available at <https://drive.google.com/file/d/OB8MZ-y9cXM2HdFJZRIFfcjNIYkpvVHpCcXBLbE11ZXRNqjFR/view>
12. *EAHP Position Paper on eHealth and mHealth* available at <http://www.eahp.eu/practice-and-policy/ehealth-and-mhealth>