Medical Records in Community Pharmacies: The Cases of UK and Australia

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Abstract: Background: Lack of access to patients’ digital health records by community pharmacists can negatively impact pharmaceutical care. Access to these records by community pharmacists is only available in some countries. Thus, the study aim was to compare and discuss the shared patients’ health records between the National Health Systems and Community Pharmacies in UK and Australia. Methods: Two platforms were selected: Summary Care Records (SCR) (UK) and My Health Record (MyHR) (Australia). A qualitative and descriptive study was carried out. The type of shared health records was collected in public/official websites. Qualitative classifiers/descriptors were created to classify the shared health records. Results: The common classifiers/descriptors between both SCR and MyHR were medicines, medicines/immunization, and medical history. However, MyHR seems to comprise more details/information, such as patient’s discharge summaries, specialist letters, or documents to communicate significant patient information from one healthcare provider to another. Conclusion: Community pharmacists can update or consult SCR and MyHR to provide direct patient care in UK and Australia, respectively. The profile of shared health records with community pharmacies was not equal between SCR (UK) and MyHR (Australia). More studies are recommended to evaluate the benefits and risks of using these platforms on patients’ outcomes.

Keywords: digital health records; summary care records; SCR; My Health Record; UK; Australia; community pharmacy; pharmacists

1. Introduction

The World Health Organization (WHO) recognizes community pharmacists as the health professionals most accessible to the public. The definition and regulatory framework of community pharmacy is variable between countries, although in the European Region most countries define it “as a type of health care facility that provides specific services or with a given mission around medicines” [1]. The major mission of pharmacy practice is to contribute “to health improvement and helping patients with health problems to make the best use of their medicines”, which is based on six pillars: “(i) being readily available to patients with or without an appointment; (ii) identifying and managing or triaging health-related problems; (iii) health promotion; (iv) assuring effectiveness of medicines; (v) preventing harm from medicines; and (vi) making responsible use of limited health care resources” [1,2]. Besides dispensing medicines, community pharmacists are responsible for developing clinical services aiming at allowing a better integration and team working with the rest of the National Health Service (NHS) in United Kingdom (UK) [3]. For instance, community pharmacist can (i) prepare or supervise the dispensing of medicines, ointments and tablets, (ii) advise patients on how their medicines are to be taken or used in the safest and most effective way in the treatment of common ailments, (iii) advise members of the public and other health professionals about medicines (both prescription and over-the-counter medicines), including appropriate selection, dosage and drug interactions, potential side effects and therapeutic effects or (iv) select, give advice on and supply non-prescription medicine, sickroom supplies and other products according to the Pharmaceutical Society of Australia [4].
A medical record is “the document that explains all detail about the patient’s history, clinical findings, diagnostic test results, pre and postoperative care, patient’s progress and medication” [5]. Community pharmacists’ lack of access to health records can negatively impact medication/therapy management. For instance, electronic health records could have been used to solve 39% (n = 63) of the analyzed cases in one study, without contacting patients and/or prescribers, as follows: history and notes in 44 cases (70%) (e.g., patient reports of muscle issues associated with the use of statins), diagnoses in 15 cases (25%), allergies in 2 cases (3%), and lab results in 2 cases (3%) [6]. However, non-updated patients’ health records can compromise patients’ safety in community pharmacy. For instance, missed drug therapy alerts were detected in Dutch community pharmacies, as a consequence of incomplete electronic patient records. Prescription drugs in 14% (out of 442 patients), nonprescription drugs in 44%, diseases in 83%, and intolerabilities in 16%, among other variables were missing in the electronic patient records [7].

According to a recent report from FIP (International Pharmaceutical Federation) comprising data from 79 countries (response rate 67%), community pharmacists were not able to access shared patient health records in most cases (n = 45; 58%) [8]. Patient information and the history of medicine supplies are commonly stored in medical records of community pharmacies in many Western countries, although health records are not frequently shared between different pharmacies and/or medical practices. The use of medical records in community pharmacies can contribute to patient care, such as to ensure an efficient and optimized (i) identification of medicine interactions, adverse drug reactions or precautions/contraindication or patients’ non-adherence to therapy, (ii) identification of patients who do not have timely obtained their medicines or (iii) management of patients with chronic illness. However, community pharmacists seem to insufficiently use medical records, which can be explained by their lack of awareness or preparedness on how to use these records [9]. For instance, the provision of a manual/guide on how to document information regarding patient’s health records, such as medication alterations or other clinical information (e.g., allergies, precautions, or contraindications), was insufficient to ensure the completeness of patients’ information in community pharmacies [10].

Interdisciplinary health teams need to share patients’ health records. This access by healthcare professionals is needed to ensure optimal standards of care (e.g., emergency medicine or long-term care management) [11]. Some Western countries were pioneers in linking the health data between the National Health Systems and Community Pharmacies, such as through the use of digital platforms (e.g., Summary Care Records (SCR) in UK or My Health Record (MyHR) in Australia) [8,12–15].

The “Summary Care Records (SCR) are an electronic record of important patient information, created from General Practitioner (GP) medical records.” Authorized healthcare professionals or authorized health staff may use the SCR to provide patient’s direct care. SCR cover all population registered with a GP practice and is created automatically unless citizens decide to opt out” [12]. MyHR is “an electronic summary of key health information from existing records and designed to be integrated into existing local clinical information systems”. Community pharmacists can access to SCR (UK) or MyHR (Australia). Both SCR and MyHR are national platforms, which support the accesses to key health information by individuals and their healthcare providers. These records only can be consulted/used by pharmacist to provide care or to update information [12,13,16]. SCR can benefit patient safety, enhance the quality and effectiveness of care, and save healthcare professionals and their organizations time and money [17]. For instance, hospital pharmacists have reported a significant time reduction to undertake medicines reconciliation, an early identification of medicines discrepancies and enhanced patient safety, with SCR [18]. Additionally, MyHR and other similar platforms ensure the quick access to health records by patients and healthcare professionals, which is necessary to guarantee rational clinical and clinical care [19].
Thus, the study aim was to compare and discuss the shared patients’ health records between the National Health Systems and Community Pharmacies in SCR (UK) and MyHR (Australia).

2. Materials and Methods

2.1. Context and Inclusion Criteria of the Compared Platforms: SCR and MyHR

Both UK and Australia were pioneers in sharing patient digital health records through digital platforms, respectively, SCR and MyHR. The SCR was introduced into diverse early adopter sites across the United Kingdom in 2007–2008 [14]. MyHR is regulated by My Health Records Act 2012 [15]. Additionally, these countries present a similar rate of practicing pharmacists. There were 88 practicing pharmacists per 100,000 inhabitants for both UK and Australia, which was a proportion slightly above the Organization for Economic Co-operation and Development—OCDE35 (i.e., 83 practicing pharmacists per 100,000 inhabitants) between 2000 and 2017 [20]. The number of community pharmacies was slightly higher for Australia (23.1 pharmacies per 100,000 inhabitants) than UK (22.1 pharmacies per 100,000 inhabitants), with both countries having the same number of pharmacies per 100,000 inhabitants (i.e., 24.7 pharmacies per 100,000 inhabitants in UK and Australia; OECD26) in 2015 [21]. Finally, community pharmacies can access national health records in both SCR and MyHR and information about these platforms is public and freely available in governmental websites (e.g., type of shared health records between national health systems and community pharmacies) [12–15]. Thus, SCR (UK) and MyHR (Australia) were conveniently selected.

2.2. Study Design

The present study is descriptive and qualitative. The standards for reporting qualitative research for qualitative studies have been followed, as explained in the present methods section [22]. The descriptive approach was based on the exhaustive description of the health records, which are shared with community pharmacies from both SCR and MyHR. All information was ipsis verbis transcribed from public governmental websites to ensure the originality and rigor of the collected information as well as to not lose any detail. The qualitative approach was based on the classification and comparison of all collected information from both SCR and MyHR. Both collected and compared information are integrally presented, as originally published in the public websites of SCR and MyHR (websites are presented in Section 2.3).

2.3. Data Collection: Websites

All information was collected in public governmental websites to ensure data accuracy. Particularly, the shared health data between national systems and community pharmacies in UK and Australia were, respectively, collected in the following public/official websites:

- UK: Summary Care Records (SCR); https://digital.nhs.uk/services/summary-care-records-scr (accessed on 21 February 2022) [12];

The shared data between national health systems and community pharmacies were collected on 22 February 2022 in both websites [12,13]. Print screens and PDFs of the collected information were archived for posterior consultation. All findings were double-checked, i.e., the correct transcription of all sentences on shared health records between national health systems and community pharmacies was double-checked.

2.4. Classification and Data Processing of the Shared Health Records

Aiming at validating and facilitating the classification and comparison of the shared health records, diverse classifiers/descriptors were created. These descriptors were used to classify the collected information in the websites of SCR and MyHR [12,13], i.e., the
shared health records between the national health systems and community pharmacies. Finally, similar/equal topics were aggregated, compared, and discussed. The definition of all constructed classifiers/descriptors is presented in Table 1. The construction of these classifiers was based on the type of shared health records between national health systems and community pharmacies, which can be consulted in Table 2.

Table 1. Classifiers/descriptors definition.

<table>
<thead>
<tr>
<th>Classifiers/Descritors</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Communication tools between healthcare professionals</td>
<td>Any document used to communicate between healthcare professionals.</td>
</tr>
<tr>
<td>End-of-life care information</td>
<td>Any information on actions to take at the end of life.</td>
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<tr>
<td>Medicines</td>
<td>Any information associated with the use of medicines, such as indications, dosage, precautions, contra-indications, adverse drug reactions or allergies.</td>
</tr>
<tr>
<td>Medical history</td>
<td>History of patients' medical events, such as diseases, accidents, hospitalizations.</td>
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<tr>
<td>Medicines/immunizations</td>
<td>Any information related to immunizations, such as the use of vaccines.</td>
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<tr>
<td>Patient data</td>
<td>Sociodemographic data or administrative data about the patient.</td>
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<tr>
<td>Patient communication needs</td>
<td>Specific communication needs (When applicable).</td>
</tr>
<tr>
<td>Pathology and diagnostic imaging reports</td>
<td>Reports providing outcomes of pathology tests or diagnostic imaging examinations.</td>
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</table>

2.5. Researcher Characteristics and Ethical Concerns

The researcher has a PhD in social pharmacy. She has no conflicts of interest to declare. Aiming at avoiding any possible interpretation biases, the types of shared data were directly copied from the official website of SCR and MyHR [12,13]. All copied sentences were identified between quotations marks. No ethical concerns were identified regarding this study since all collected information is public.

3. Results

Health Records Accessed by Community Pharmacies: SCR and My Health Record

The patients’ health records from SCR and My Health Record which can be accessed by community pharmacies are presented in Table 2 [12,13,16]. These health records were integrally transcribed from the data collection website (see Section 2.3).

Table 2. Classification of the health records accessed by community pharmacies in SCR and My Health Record [12,13,16].

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>“Current medication” *</td>
<td>• Medicines</td>
<td>“Shared health summary—a summary of a patient’s medical history, medicines, allergies, adverse drug reactions and immunizations created by their nominated healthcare provider”</td>
<td>• Medicines</td>
</tr>
<tr>
<td>“Allergies and details of any previous bad reactions to medicines” *</td>
<td>• Medicines</td>
<td></td>
<td>• Medical history</td>
</tr>
<tr>
<td>“The name, address, date of birth and NHS number of the patient” *</td>
<td>• Patient data</td>
<td>“Discharge summary—a record of a patient’s hospital stay and any follow-up treatment that is required. It may include a clinical summary of the reason for admission and any diagnoses or medication changes made during the admission”</td>
<td>• Medical history</td>
</tr>
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</table>
Table 2. Cont.

<table>
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<tr>
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<tbody>
<tr>
<td>“Details of long-term conditions (past and present)” **</td>
<td>• Medical history</td>
<td>“Specialist letter—a document used by a treating specialist to communicate to the referring GP patient information, treatment plan and follow-up required”</td>
<td>• Communication tools between healthcare professionals</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Medical history</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Medicines</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Treatment plan and follow up</td>
</tr>
<tr>
<td>“Significant medical history” **</td>
<td>• Medical history</td>
<td>“Event summary—a document that details key health information about a significant healthcare event that is relevant to the ongoing care of the patient (e.g., clinical intervention, improvement in a condition, treatment that has been started or completed). Generally, an event summary is used when it is not appropriate to upload the information as a shared health summary, discharge summary or specialist letter”</td>
<td>• Medical history</td>
</tr>
<tr>
<td>“Specific communications needs” **</td>
<td>• Patient communication needs</td>
<td>“Pathology and diagnostic imaging reports—reports providing outcomes of pathology tests or diagnostic imaging examinations”</td>
<td>• Pathology and diagnostic imaging reports</td>
</tr>
<tr>
<td>“COVID-19 specific codes in relation to suspected, confirmed, Shielded Patient List and other COVID-19 related information” **</td>
<td>• COVID-19</td>
<td>“Pharmacist Shared Medicines List (PSML)—a list of reconciled medicines that the patient was known to be taking at the time the list was created by a pharmacist. See ‘Pharmacist Shared Medicines List’”</td>
<td>• Medicines</td>
</tr>
<tr>
<td>“Reason for medication” **</td>
<td>• Medicines</td>
<td>“Prescription records—documents containing information about the medicines (PBS, RPBS and private) prescribed to a patient, including brand name, active ingredients, strength, dosage instructions, maximum number of repeats, date of prescribing, prescription expiry date, the healthcare provider who prescribed the medication and the healthcare provider organization that the patient visited.”</td>
<td>• Medicines</td>
</tr>
<tr>
<td>“Anticipatory care information (such as information about the management of long-term conditions)” **</td>
<td>• Medical history</td>
<td>“Dispense records—documents containing information about the medicines dispensed to a patient, including brand name, active ingredients, strength, dosage instructions, number of repeats dispensed and remaining, where it was dispensed and the date of last dispensing.”</td>
<td>• Medicines</td>
</tr>
<tr>
<td>“End of life care information (from the SCC11580 national dataset)” **</td>
<td>• End of life care information</td>
<td>“eReferral—a document that communicates significant patient information from one treating healthcare provider to another.”</td>
<td>• Communication tools between healthcare professions</td>
</tr>
<tr>
<td>“Immunizations”</td>
<td>• Medicines/ immunizations</td>
<td></td>
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</table>

| Number of different classifiers/descriptors | 7 | 6 |
| Sum of all classifiers/descriptors, including the repeated classifiers/descriptors | 11 | 14 |

* Minimum/core information; ** Additional information—only temporarily available to support patient care in response to coronavirus (COVID-19). This information is included by default unless patients informed that they do not want to share these data [10].
4. Discussion

4.1. SCR and MyHR: Shared Health Records

Both SCR and MyHR comprise relevant health records (e.g., prescribed medicines, allergies, or immunizations), which can support the intervention of health professionals on the provision of care to patients, such as community pharmacists. The access to shared health records by community pharmacist, for instance, is likely to facilitate the identification of potential drug adverse reactions, interactions, precautions, contraindications, etc. [6,7]. The common shared health records and/or descriptors between both platforms (e.g., medicines, medicines/immunization, and medical history) can indicate potentially relevant types of shared records for the professional practice of community pharmacists.

MyHR seems to include more details/information than SCR, since the sum of all classifiers/descriptors, including the repeated classifiers/descriptors, was higher for MyHR than SCR. MyHR comprise specific shared health records, such as discharge summary, specialist letter, or an eReferral. However, some health records, such as specific communications needs or end-of-life care information, seems to be specific of SCR. The different shared health records between SCR and MyHR can be relevant to manage patient therapeutics and follow patients in community pharmacies (e.g., patient communication needs or end of life information in SCR or treatment plan and follow up or pathology and diagnostic imaging reports in MyHR). In addition, these differences can indicate that there is not a consensus regarding the type of shared health records between national systems and community pharmacies or that there are distinct regulations regarding data protection on the type of shared health records between both countries (i.e., UK and Australia) (at least in some cases).

It is important to note that a higher number and type of shared health records may not necessarily be beneficial for patients. For instance, regular updates are more complex in larger than small databases, systematic errors can be more likely when more data are shared, and confidentiality issues are more likely to arise. Thus, shared data/records between national health systems and community pharmacies should follow narrow guidelines and quality control procedures, such as double-checking and/or regular updates and verifications of the health records by community pharmacists, health professionals, and patients. Importantly, the impact of using shared health records on patient health outcomes is determinant to demonstrate the benefit of using these types of platforms in community pharmacies. However, data on patient clinical outcomes, as a consequence of using these platforms, were not available for both SCR and MyHR.

4.2. Advantages and Disadvantages of SCR and MyHR

SCR presents diverse reported advantages, as follows: “fewer referrals to other NHS care settings, a reduced need for phone calls to GP practices, fewer prescribing errors, and reduced patient waiting times and improved service for patients” [12]. The reduction in contact (e.g., few faxes and phone calls to GP practices), identification of discrepancies, and limited time to establish medicines reconciliation was found by hospital pharmacy teams using SCR (n = 1432 participants/patients) [23]. SCR used standardized terms (active preferred terms), such as “Asthma action plan”; “Asthma clinical management plan”; “Asthma management”; “Asthma self-management”; “Asthma self-management plan agreed”; “Asthma self-management plan review”; “At risk of acute kidney injury”; “At risk of severe asthma exacerbation”; “At risk of sudden unexpected death in epilepsy”; “Care plan reviewed”; “Care planning declined”; “Cared for by family”; or “Caregiver difficulty performing caretaking”. The full version of the active preferred terms used in SCR may be consulted at “NHS Digital SCR inclusion dataset overview” [12]. The use of SCR is a factor in funding community pharmacies, which demonstrates the political relevance of this platform in the UK [12,24,25]. In general, most individuals showed a positive perception on SCR, in a study, with 103 semi-structured individual interviews and seven focus groups [14]. SCR was widely used, with 14,823,848 projected SCR views in 2021 (2.12 SCR views per second). For instance, there were 26,596 SCR views in community
pharmacies on 14 February 2022 [12,26]. However, the lack of access by community pharmacists to some patient health records can constitute a disadvantage in some cases, i.e., only some data/information can be consulted by community pharmacist in Britain [24].

MyHR presents some benefits, as follows: medicines information is quickly displayed by alphabetic order; the immunization view comprises details on subjects’ immunization history, such as date, vaccine details (including batch number and vial serial number), dose and source; the prescription and dispense view comprise details on the name of the medicine (both the brand name and the active ingredients); the prescription and dispensation dates; the strength and form of the medicine; directions for use, or the dispensing information may be uploaded by pharmacists. For instance, pharmacists “can create and upload an accurate and up-to-date reconciled medicines list to a patient’s MyHR to support the care of the patient” or update patient allergy information [16]. Both pharmacists and general practitioners (GP) can view the patients’ health record overview, eHealth pathology report view, eHealth diagnostic imaging report view, eHealth Prescription & Dispense View, or eHealth Medicines View [27]. Additionally, the use of MyHR improved medication safety (e.g., avoided adverse drug events, enhanced patient self-management, and improvements in patient outcomes); access to information by patients and their healthcare providers (e.g., reduced time gathering clinical information), and reducing unnecessary services (e.g., avoided duplication of services) [28]. However, there is insufficient evidence that MyHR has improved Australia’s healthcare system (e.g., possible misinterpretations as well as information quality and usability gaps were found, which may negatively affect the low literate people in the consultation of MyHR) [29,30]. Diverse recommendations were suggested to overcome these limitations, such as raise stakeholder’s awareness on MyHR, conduct training sessions for stakeholders and patients on how to use MyHR, reward healthcare professionals for correctly use the system, ensure the security integrity and compliance of MyHR, and develop a simple graphical user interface [31].

Overall, SCR and MyHR seem to be useful digital platforms in the direct provision of care by community pharmacists, but more studies are recommended to identify all potential patients’ risks and benefits associated with the use of these platforms [17]. Digital health records need to be embedded in organizational and inter-organizational practices and must be accepted by patients and health teams. Thus, constituting complex digital systems [32]. In general, these platforms can be associated with implementation or maintenance issues (e.g., absence of data or persistence of old data) or the public concern with the confidentiality of data [18,33]. For instance, pseudonymization was proposed to preserve data security [34]. The use of digital platforms to share health records remains a hot topic, since digital health records cannot be accessed (or not fully accessed) by community pharmacists in many countries [8,24]. For instance, a group of Swiss community pharmacists declared that they receive insufficient information along with discharge prescriptions, after patient hospital discharge, which limited patient care and pharmaceutical interventions [35].

4.3. Future Research

SCR and MyHR may need optimization. For instance, the profile of shared records between both studied platforms was not equal. Studies on the evaluation of real-world data, optimization of electronic records, or application of artificial intelligence to quickly solve safety and efficacy issues are suggested [36]. The creation of interdisciplinary working groups are suggested to define the most relevant shared health records for community pharmacies, since only some records are likely to be potentially relevant to the professional practice of community pharmacists and patient care. The impact of using SCR and MyHR on patient outcomes must be closely monitored to validate the benefit of using these platforms. The development of guidance on how to use, revise, check and update information on these platforms is proposed, for instance, through usability tests. The creation of training programs on the correct use of these platforms by healthcare professionals is recommended, since having more data available also raises the responsibility over it and requires the acquisition and/or consolidation of healthcare professionals’ skills to utilize the shared
records for the benefit of patients. Comparative studies are suggested, such as to compare different platforms or to compare the impact of different data protection regulations on the type of shared health records between countries/regions. The potential consultation of health records by other non-healthcare professionals, such as social care professionals should also be investigated and discussed to ensure an efficient patient-centered approach (e.g., geriatric technicians and their patients can benefit from the consultation of health records). Confidentiality and ethical issues about sharing health records are recommended for consideration. However, health records are the property of patients who can authorize their consultation by healthcare professionals or other professionals. Pilot studies are recommended to test these types of platforms.

4.4. Practical Implications

The comparison of the SCR (UK) and MyHR (Australia) digital platforms could serve other countries to compare and revise their data to, for instance, improve pharmaceutical care in community pharmacies. SCR and MyHR can contribute to the assessment of health systems (e.g., post-COVID-19 health measures/actions).

4.5. Study Limitations

Real-world data were not analyzed, such as case reports and/or big data. The number of analyzed platforms sharing national health records with community pharmacies was limited (i.e., only SCR vs. MyHR). Only public information on the content of SCR and MyHR was collected, which may not fully cover of all the shared data. The information was only compared and analyzed by just one researcher, which may have introduced study biases (e.g., selection or interpretation biases), since analyses were not double checked, and consensus techniques were not applied between different researchers. Experts/healthcare professionals from different areas were not involved (e.g., physician or nurses), which may have influenced study design or data analysis. The differences between data protection regulations of UK and Australia were not evaluated, which may explain some differences in the profile of shared health records.

5. Conclusions

SCR and MyHR comprise digital health records, which may be used by community pharmacists to provide patient direct care. Authorized healthcare professionals, such as community pharmacists or authorized health staff can updated or consult SCR and MyHR, respectively, in UK and Australia. In general, MyHR seems to cover more patients’ health data/information than SCR. However, sharing more health records between national health system and community pharmacies data not necessarily ensures more benefits for patients (e.g., improved clinical outcomes). Thus, the impact of using shared health records on patient health outcomes is determinant to validate and demonstrate the benefit of using these platforms in community pharmacies.

There was no consensus regarding the profile of shared health records between national health systems and community pharmacies (i.e., only some of the shared health records were equal/common between both platforms). These divergencies may be due to different data protection regulations.

Medicines, medicines/immunization, and medical history were among the common shared records/descriptors between SCR and MyHR, which can indicate that this information is relevant for the professional practice of community pharmacists. Further studies are recommended to clearly evaluate/define the most relevant shared health records between national health system and community pharmacies or to study the impact of using these platforms on patients’ health outcomes, since some health records can be more relevant than others to the professional practice of pharmacists.
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