**Review Article**

# An overview on pharmacist-managed prescription renewal

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**Abstract**

To enhance patient care and clinical outcomes while minimizing administrative burdens, a new model of chronic disease management has been tested. This model focuses on the value of inter-professional collaboration and aims to reduce the administrative workload of primary care providers, particularly physicians at healthcare centres. Pharmacists, as essential healthcare providers, play a crucial role in the medication cycle, and pharmacist-led prescription renewal for chronic oral medication has emerged as a potential intervention to improve adherence and treatment outcomes. The success of therapy is dependent on patient adherence. Understanding the reasons behind non-adherence and identifying strategies to address this situation can improve healthcare outcomes. The implementation of prescription renewal in community pharmacies may benefit patients, healthcare professionals and society in general. By focusing on patient well-being and promoting collaboration among healthcare providers, it is possible to enhance adherence rates and optimize patient care.

**Keywords:** adherence, prescription renewal, pharmacists, healthcare outcomes



## INTRODUCTION

Chronic diseases are a significant health concern in Portugal, as in many other countries. In 2019, 41% of the adult population in Portugal, acknowledged having at least one chronic condition[1], emphasizing the need for ongoing focus on preventive healthcare measures and healthy living initiatives. Data from the Portuguese health authority (Infarmed I.P.) indicates that, in 2022, approximately 180.3 million medication packages were dispensed in Portugal. The most commonly used therapeutic class was antidyslipidemics (e.g. statins), which accounted for a market share of 9.1%, equivalent to approximately 16.5 million dispensed packages. Next were renin-angiotensin system modifiers (e.g. bisoprolol), representing 8.3% of the market share, with a total of 14 942 932 packages dispensed.[2]

Adherence to therapy plays an important role in the effectiveness of the treatment and it can be crucial to achieve successful outcomes. According to The World Health Organization (WHO), adherence can be defined as "the extent to which the patient follows medical instructions" [3]. In order to gain a better understanding of treatment adherence, it is crucial to understand the process by which patients acquire their prescriptions and medications. In Portugal, patients can request a prescription from their attending physician by phone, e-mail or by submitting a written request at their healthcare centre. They can also schedule a consultation with their healthcare provider. Once the prescription is issued, patients can receive it through a text message or in paper. They then present it at a community pharmacy, where the pharmacist will dispense the prescribed medications.

It is important for patients to actively participate in managing their own health, and healthcare providers, such as pharmacists, can enhance patient awareness and provide health literacy, namely on information on drug interactions, side effects and medication management. [4,5] The recently approved European Health Data Space (EHDS) will help patients control their health data and will enable health professionals to access the patients' electronic health record improving patient safety and healthcare efficiency. Pharmacist intervention is vital in the management of chronic medication, as it directly impacts both upon adherence and the correct use of medications. An umbrella review has demonstrated that community pharmacists can improve clinical outcomes in chronic conditions such as diabetes, dyslipidaemia, cardiovascular and respiratory disorders, making a significant difference.[6] Another study, conducted at Washington State University, indicated that the majority of physicians agree with and feel comfortable with pharmacists providing chronic disease management.[7] This collaboration with the physicians is relevant, not only due to the close relationship that pharmacists have with patients, but also because of the relevant interventions they perform.[6]

Therefore, the aim of this paper was to gain insight into the current process of prescription renewal for patients with chronic conditions with long-term therapies. It also proposes to establish a connection between prescription renewal practices and therapy adherence. Furthermore, information about the significance of adherence, the underlying factors contributing to non-adherence and strategies to improve it will

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be explored. By doing so, we intended to establish the practical implications and benefits of implementing such measure such as devising suitable strategies to enhance adherence and expand pharmaceutical interventions.

**Importance of Adherence**

Medication adherence can be defined as the extent to which a patient's behaviour corresponds with the prescribed medication dosing regimen, including time, dosing and interval of medication intake.[8]Adherence can be the determinant factor between a healthy treatment or a negative result[9], which means that even the most effective therapy may fail when patients do not take their medication as prescribed. Preventing disease progression, improving health outcomes, avoiding complications, and enhancing quality of life are essential steps to manage chronic patients. These objectives not only benefit patients, but also have positive impacts on healthcare providers.[10] Managing non-adherent patients can be challenging and lead to frustration. The burden of chronic conditions extends beyond individual patients and healthcare providers, affecting society and healthcare sustainability.

Adherence also has an economic impact by reducing the mortality rates and the number of hospitalizations, which results in lower healthcare costs.[11] It was demonstrated that in pathologies like diabetes, hypertension and hypercholesterolemia an improved adherence, can result in a significant reduction in medical costs. According to The International Longevity Centre-UK (ILC), non-adherence causes a loss of €125 billion annually, just in Europe.[12] From the studies that report healthcare costs, 49% (39 studies) found non-adherence costs to transcend the adherence costs.[13]

Adherence to therapy is also a critical factor in preventing drug resistance, especially in the case of antibiotics. Following the prescribed treatment regimen significantly reduces the odds of developing drug-resistant strains of bacteria. By taking medication as directed, patients can help ensure that the treatment is effective and minimize the risk of drug resistance.[14]

A proper treatment adherence can enhance communication between patients and healthcare providers. By following their prescribed therapy, patients demonstrate a commitment to their own well-being and a willingness to collaborate with their healthcare team. This mutual investment can help establish a stronger bond between them, which may facilitate the delivery of optimal care. Moreover, it may promote shared decision-making between patients and healthcare providers. Regular follow-up and dialogue enable healthcare providers to better understand their patients' needs, including any side effects, treatment responses, or other challenges they may be experiencing. This collaborative approach enables healthcare providers to tailor treatment plans that are targeted to patients' individual needs and preferences, leading to improved treatment outcomes and overall patient satisfaction.

**Non-Adherence**

Several studies have been conducted in different countries over the years in order to evaluate the lack of adherence and the reasons behind it. Although there is not a universal method to quantify adherence, some questionnaires, such as the Medication Adherence Questionnaire (MAQ), the 8-item Morisky Medication Adherence Scale (MMAS) and the Brief Medication Questionnaire, have been used to evaluate this behaviour.[15] A 2022 literature review on the risk factors and potential interventions for medication non-adherence[16] identified an abundance of factors that can significantly impact patients' adherence to their prescribed treatment regimen. These factors can be grouped into three categories: socioeconomic, healthcare system and patient-related factors. By understanding the complex interplay of these factors, healthcare providers can develop interventions that address the underlying causes of non-adherence.

**Socioeconomic Factors**

These factors may have a substantial impact on a person's access to healthcare, and consequently their adherence to therapy. Starting with cost: while it is true that many medications have generic versions available, there are still some medications that do not have generic options. Additionally, even with generic options available, many patients may still struggle with drug expenses. In some cases, patients have to choose between paying for their medication or other basic necessities, such as rent.

Research has shown that in Portugal, 33.3% of chronic patients had to sacrifice purchasing medications due to financial constraints.[17] This highlights the importance of addressing financial barriers to medication adherence, as well as the need for healthcare providers to work with patients to find solutions.[18] For example, pharmacists can make an effort to find affordable medication options between all generic brands, but this will not solve the core problems of poverty, illiteracy, unemployment, and lack of social support.

Living alone can equally present challenges when it comes to managing medication. In addition to the lack of social support, living alone can also contribute to feelings of depression and loneliness.[16] One of the major issues is the absence of someone to remind the individual to take their medication and help them manage their prescription effectively. This can result in missed doses or improper use, which can have serious consequences on the patients' health.

**Healthcare System**

Access to healthcare is essential for individuals to receive appropriate medical care and maintain their overall health. Unfortunately, many patients face difficulties in accessing healthcare services, particularly those who live in remote or rural areas. Limited access to follow-up appointments or prescription medications can increase the risk of non-adherence. In addition, patients without health insurance are less likely to search for medical care and may not receive the treatment they need. Although some professionals, such as armed forces and bank employees, have a social health insurance, the Portuguese health system is mainly structured as a tax based system defined as a national health system (NHS).[19] The NHS is designed to provide comprehensive, equitable

and reasonably priced healthcare services to all citizens and residents regardless of their financial status. Regrettably, it has some shortcomings, including long waiting times for certain specialized areas and no freedom in selecting their specialist or specialized care, which can lead to non-adherence. Geographic access to hospitals in Portugal can be a challenge for some patients. Because of the country's geography and the population distribution (about 60% in the littoral area[20]), there are some regions where the nearest healthcare facility can be distant, especially in the rural areas[21]. When patients are unable to obtain necessary care, they are more likely to discontinue or alter their treatment plan, which can result in adverse health consequences. Patients who require frequent or ongoing medical care for their chronic pathologies, are at greater risk as they may not have the access to the services they need.

The quality of care provided is also a determinant factor. In an overloaded health care system, clinicians may have limited time and resources to provide individualized attention to each patient, resulting in inadequate assessment of their medication-taking behaviours[22]. When patients believe they are receiving high-quality, tailored treatment to their needs, the likelihood of them adhering to the therapy increases. Assertive communication between healthcare professionals and patients could be the key to ensure the success of therapeutic outcomes. By actively listening to patients' concerns and taking the time to explain the reasons behind their treatment plan, healthcare providers can help patients to comprehend the importance of adhering to their prescribed treatment. This not only enhances patients' understanding, but also increases their likelihood of adhering to their treatment plan, ultimately leading to improved health outcomes.[23]

**Patient-related Factors**

The fear of adverse drug events (ADE) can be a significant factor in non-adherence to therapy.[24] An ADE is defined as "an injury resulting from medical intervention related to a drug".[25] When patients fear ADEs, they can be reluctant to take their medication as prescribed, compromising their health outcomes. This can be observed in cases where the patient has experienced ADEs in the past. Patients may also worry about long-term effects of medication use. A study conducted in hypertensive patients demonstrated that adverse effects significantly contribute to antihypertensive medication non-adherence.[26]

ADEs are sometimes linked to misinformation, which can be influenced by patient's health literacy. Patients with higher health literacy have better medication knowledge, while patients with inadequate or low health literacy may have difficulties to understand their treatment plan, including the proper dosage and timing of medications. They may also be less likely to have access to resources that could help them answer their questions.[27] Hence, low health literacy can lead to a lack of understanding about the benefits and risks of their medication, resulting in unnecessary fear or reluctance to take the prescribed medication. Here health care professionals can make a difference, as they can help educate patients and explain treatment plans. Pharmacists, when dispensing medications, and nurses when caregiving, can provide accurate and understandable information regarding medication and medical device use. Studies have suggested that asthmatic and chronic pulmonary disease patients, who used inhalation devices on a daily basis, did not know the correct techniques due to lack of education. A cross-sectional study conducted in Saudi Arabia hospitals revealed that a meaningful percentage of participants did not use their inhaler devices properly. The study found that 45% of participants demonstrated improper use of their asthma devices.[28] This highlights the potential impact of low health literacy, as patients may not fully comprehend how to properly use their medical devices or to correctly take their prescribed medicine. Pharmacists, as highly qualified and easily accessible health professionals, can help improve patient health literacy and contribute to reduce the financial burden due to unnecessary ADEs.

**Ways to Enhance Medication Adherence**

Patient education is essential, and pharmacy professionals are well-placed to promote medication adherence, having everyday practice and hands-on experience. It is important to provide clear information concerning the risks and benefits of the treatment, as well as the consequences of non-adherence in an understandable way. When patients are well-informed about their treatment, they are more motivated to follow through on the treatment plan, take an active role in their healthcare, and feel confident in managing their condition.[29]

By building a trusting relationship between patients and health professionals, they will be more open to express their concerns, which can lead to a better communication.[30] It is also important to simplify the regimen, especially in elderly patients. According to "Medication Non-Adherence Among Elderly Patients Newly Discharged and Receiving Polypharmacy", a significant percentage of patients over 65 years old did not understand the indication of their prescribed drugs at hospital discharge.[31] If the treatment plan is easy to follow and to understand, adherence will improve. Simplifying the regimen can involve several strategies, for instance minimize the number of medications and frequency, using for example extended-release formulations or combinations of drugs already marketed.

Moreover, family members and caregivers can have a major impact on adherence, through support and involvement in their care. The simple transportation factor can make an enormous difference, because to attend medical appoints, patients may require transportation, and caregivers can assist by providing rides. Particularly for those who are elderly or live in rural areas, the public transportation options are limited. Chronic disease care is complex and, in some cases, requires frequent visits to clinicians, access to medications and adjustments to treatment plans. Transportation barriers can cause delays in clinical interventions, which can negatively impact on the outcome.[32]

There are several processes and strategies that can help the patient, such as focusing on the patient's illness needs. During

this process, family caregivers learn about the patient's health condition, help activate healthcare resources (e.g. support groups and forums) and become better equipped to support patients in self-managing their illness. This may include helping patients to follow their treatment plan, assisting with medication management and helping them to maintain a healthy lifestyle.[33] By developing these skills, caregivers can play an important role in promoting positive health outcomes for patients.

Regular follow-ups are also extremely important to promote medical adherence. They force patients to stay on track with their treatment plan and allow medication adjustment or lifestyle modifications in response to changes in the patient's health status.[34] This way, the doctor can monitor progress, address any concerns and ensure successful health outcomes.

Using reminders is a simple yet effective strategy to improve adherence to therapy. Technology has evolved rapidly over the years, and healthcare app development is reshaping provision of services, and there are now many new methods to remind people to take their medication; from calendar reminders to smart medication dispensers, the options are endless. Starting with mobile apps, which possesses the potential to revolutionize healthcare, it was demonstrated that mobile apps prevent forgetfulness and incorrect administration, contributing to patient safety.[35] These apps offering convenience and personalization, can send notifications, allow users to monitor symptoms, track vital signs, record medications, and log lifestyle factors, that impact their condition, track medication schedules and provide information about dosages and side effects. In addition, many of them can track when medication is taken, enabling caregivers to monitor adherence and prevent potential health complications.

Another modern option are smart pill bottles, which can be programmed to remind patients to take their medication at the correct time, with autonomous internet access. They were designed to improve medication reminder by offering additional functionalities that build upon personalized medicine concept.[36] A preliminary study involving 14 polymedicated participants showed that this pillbox reduces medicine intake delays, which can make a difference in medication adherence.[37] For patients who may not prefer technology, there are the traditional pill organizers, which sort medications by day and time. They allow patients to remember to take their medication and reduce the risk of accidental overdoses or missed doses.

Every patient is different and unique, it is essential to identify the specific barriers to adherence in order to overcome them. When patients have health concerns, pharmacists are often the first professionals they contact.[29] Pharmacists, are trained experts with the specialized skills in medication management and eventual suggestion for a medication adjustment, playing a key role in improving adherence.[38]

**Access to Medication**

Portugal is included in the European countries list where International Non-proprietary Name (INN) prescription is compulsory, along with Greece, Romania, Estonia, Latvia and Lithuania, since January 2013.[39] In Portugal, the prescription of medication is reserved to physicians and medication must be prescribed its INN, the brand name can only be included when there are no available alternatives or when the physician adds a technical justification.[3] This technical justification is provided in three specific situations: medications with narrow therapeutic margin, previously reported adverse reactions to a medication with the same active substance, or when the medication is intended for long-term therapy lasting more than 28 days. In addition to the INN, the prescription must include the dosage, pharmaceutical form, package size, number of packages and posology.[40]

Prescriptions may be issued either electronically or manually, each with thier own specificities. Manual prescriptions have specific requirements that must be met to be considered valid, such as the prescriber's identification labels, no erasures and patient identification. At the time of dispensing, the pharmacist must verify whether these and other points are in accordance to ensure that the prescription is legit. Due to being handwritten, these prescriptions are associated with spelling errors or incorrect interpretations. The difficulties in reading the handwriting can sometimes lead to the dispensing of the wrong medication. Fortunately, electronic prescriptions have emerged to facilitate this process and minimize dispensing errors.[41]

Manual and electronic prescriptions differ in several aspects, including their validity period. While a manual prescription is only valid for 30 days from the date of issuance, an electronic prescription may be valid for up to one year, at the discretion of the physician. Another distinctive aspect is the maximum number of medications and packages they may include. In the case of manual prescriptions, each prescription may include a maximum of 4 medications, with a maximum of two packages for each medication.[42]

It is also important to note that patients do not keep the manual prescription after first use, so they have to collect all prescribed medication at once; if they choose not to do so, they will be unable to collect the remaining packages at a later date. In contrast, electronic prescriptions allow for two packages in short-duration treatments and in long-duration treatments the number of packages to ensure up to 12 months' supply, which the patient can acquire as needed within the specified timeframe.[43] To collect their medication, the patient must present the prescription at the community pharmacy, where it is dispensed by a pharmacy technician or a pharmacist.

**Renewal of Prescriptions by Pharmacists**

After physicians and nurses, pharmacists are the largest healthcare providers workforce and play an important part in healthcare. In Portugal, pharmacists are trained through a 5-year master's degree covering a numerous of disciplines. On graduation, pharmacists can work in different areas, such as pharmaceutical industry, clinical analysis laboratories, academy and research, hospital pharmacies and community pharmacies.[44] Unfortunately, their responsibilities are limited when compared to pharmacists in some other countries. For

example, in countries like Switzerland and Ireland, pharmacists were involved in COVID-19 vaccine administration. In Portugal, pharmacist intention was expressed in 2021[45], but was only implemented in September 2023.[46] In France, because of the success in COVID-19 vaccinations, authorities have slowly expanded the role of pharmacists to other vaccines, such as tetanus, diphtheria and pneumococcus.[47]

As in case of vaccine administration, permission to renew medical prescriptions also differs. In countries like France[48,49] and the Netherlands, pharmacists can renew medical prescriptions for certain medications, including medications for chronic conditions, such as hypertension and diabetes. In the Netherlands they may also modify the prescription when a potentially relevant drug related problem is found.[50]

Allowing pharmacists to renew prescriptions in Portugal can help improve adherence to therapy, reduce the time physicians spend with this task and increase patient care. This measure was included in the proposal for the 2023 State Budget, submitted to the Assembly of the Republic.[51] Following this proposal, Order No. 263/2023 approved on August 17th, allowing medication renewal for chronic conditions in community pharmacies.[52]

In Portugal, pharmacists can administer the seasonal influenza vaccination, as is the case in some other countries. To provide this service, Portuguese pharmacists need to meet a number of requirements and standards such as mandatory training on vaccination, recertification every 5 years, evidence of continued activity, and certification on basic emergency resuscitation.[53]

**Prescription Renewal in Portugal**

According to the Portuguese National Institute of Statistics (INE), the average life expectancy in Portugal, for the period 2020-2022, was estimated to be 80.96 years. It was also reported that life expectancy at the age of 65 has increased over the last 10 years.[54] This factor, combined with a decrease in the birth rate, indicates that, as in many other developed countries, the population in Portugal is aging, which presents several challenges. An ageing population is associated with an increased prevalence of chronic conditions.[55] As a result, there is a growing demand for healthcare services and resources.

Allowing prescription renewal at community pharmacies, can optimize healthcare systems, providing patients with more convenient and accessible options to manage their medical needs. This measure may also help to reduce the burden on healthcare centres, allowing more patients to access medical consultations on a daily basis when they are truly needed, and freeing up resources for more complex cases. The demand for medical appointments in primary care units is often high and waiting lists are long. Many patients make appointments only to renew their prescriptions, which can cause delay and lead to frustration, potentially compromising health outcomes. Prescription renewals at community pharmacies can make the NHS more efficient and cost-effective.

Furthermore, pharmacies are often closer and more accessible than healthcare centres. In Portugal, in 2021, there were 2,921 pharmacies.[56] The proximity of pharmacies to patients' homes or workplaces reduces transportation barriers and makes it more convenient for patients to obtain their medications. This increased accessibility can ultimately lead to improved health outcomes for patients and a more efficient use of resources in the healthcare system. Patients who have to travel to the healthcare centres to renew their prescriptions may experience barriers that can affect their ability to take their medication as prescribed. These barriers include transportation issues, time constraints and difficulties in scheduling appointments. If patients are able to conveniently obtain their medications at the same location as their prescription renewals, there barriers would cease to exist.[32]

This measure can also have an impact on healthcare providers by sharing the responsibility of renewing chronical medical prescriptions with pharmacists, physicians will be less overloaded and have more time to perform other tasks. Pharmacists, as healthcare professionals, are trained to detect adverse effects and potential medication interactions, making them capable of understanding therapy and renewing prescriptions for chronic medication.[57]

Pharmaceutical intervention on potentially inappropriate medication in older patients can improve healthcare outcomes.[58] When polypharmacy is needed, medication review should be performed to optimize results.[59] Deprescribing, a process of medication withdrawal, is another essential part of good medical long-term care to ensure safe and effective use of medications.[60]

Additionally, due to the close patient-pharmacist relationship, the extended opening hours of community pharmacies, and the absence of appointment requirement, patient interaction with their pharmacist is simple. Pharmacists, as highly accessible, approachable, and trusted healthcare professionals, enable patients to easily discuss health concerns and medication-related problems, which can potentially improve compliance and confidence in their treatment.[61] Pharmacists can provide patients with crucial counselling and education on the proper use of medication, advise on lifestyle modifications, improving overall health outcomes and medication adherence, as well as health literacy.

Furthermore, pharmacists can conduct medication reconciliation, ensuring that patients receive the correct medications and doses, reducing the risk of medication errors.[62] Prescription renewal in community pharmacies uses computer systems to facilitate the exchange of information between physicians and pharmacists.[52,63] Improving interaction between healthcare professionals may promote and raise patient care. This integration can lead to better communication, collaboration and coordination between healthcare professionals, resulting in improved patient outcomes.[64]

To ensure medication adherence and safety, pharmacists can also assess and monitor biochemical parameters to closely control their patient's health. Many community pharmacies offer services such as blood pressure, blood sugar and total cholesterol measurements that may be effectively utilized for this purpose. By monitoring these parameters, pharmacists can

detect abnormalities and suggest appropriate interventions.

This is particularly important, considering, for example, the high burden of cardiovascular conditions globally and its impact on morbidity and mortality. Cardiovascular pathologies are a major public health concern in Portugal and are the leading cause of death in the country.[1] Promoting adherence to therapy is crucial in effectively managing cardiovascular conditions and preventing cardiovascular events and disease progression.[65]

Through monitoring the correct biochemical parameters, pharmacists may optimize the treatment and confirm the correct use of medication. According to a report, community pharmacy services, avoided 1 549 084 physician visits and 7557 hospitalizations in chronic patients with hypertension, reflecting considerable healthcare benefits.[66]

Now that patients can renew their prescriptions more frequently and easily, they do not need to purchase as many packages at once, they are able to acquire only the necessary quantity of medication for a specific period. Additionally, prescription renewal in community pharmacies may be accompanied by compliance monitoring, such as tracking medication pickup frequency.[67] Considering sustainability, this measure will not only facilitate monitoring, but can also have a long-term impact on reducing medication waste.[68]

A study regarding the impact of the prescription renewal refill service, conducted in 2020/2021, concluded that this service may represent a beneficial contribution to pharmaceutical services, with an increase in patient and healthcare professional satisfaction. It also highlighted the positive impact on promoting treatment continuity and optimizing therapy regimens.[69] Another study concerning the outcomes of a pharmacist-managed medication refill programme, demonstrated the patients' interest in having community pharmacists managing and monitoring the process. Patients expressed a preference for this approach based on the expertise and attentiveness of community pharmacists in ensuring safe and effective medication refills.[70] Prescription renewal in community pharmacies is a promising approach that can benefit patients, healthcare providers and the overall healthcare system in Portugal.

## CONCLUSION

Adherence to therapy is crucial for the success of treatment. In addition to the clinical benefits, reducing healthcare costs and medicine waste, enables the allocation of resources to other areas of healthcare. Therefore, it is essential to develop strategies to improve adherence, such as simplifying therapeutic regimens and promoting patient education. Healthcare professionals, community pharmacists in particular, due to their proximity to patients, can help to improve adherence. This closeness is reflected in a trustful relationship that may positively influence therapy.

A recent regulation enacted in Portugal, enables the renewal process of chronic prescriptions in community pharmacies. This constitutes a significant step in expanding the pharmacist´s intervention and improving patient care. Given the substantial number of chronic patients in Portugal, allowing prescription renewal in pharmacies plays an important role in improving adherence, as it simplifies the renewal process. Frequent visits to community pharmacies can improve patient monitoring and increase early detection of health problems. Moreover, it alleviates the burden on physicians, freeing up appointments for emergency situations and ultimately reducing waiting times. Beside physicians, pharmacists with the increased roles and responsibilities associated with prescription renewal, experience greater recognition and valorisation of the profession. The positive results observed in other countries (e.g. France and The Netherlands), where pharmacists already have this authority, further support the advantages mentioned above.

By monitoring patient adherence to therapy, in addition to ensuring compliance with dosage regimens and treatment success, long-term reduction of medication waste may be achieved, a crucial factor in promoting sustainability. The implementation of prescription renewal in community pharmacies may benefit patients, healthcare professionals and society in general. By focusing on patient well-being and promoting collaboration among healthcare providers, it is possible to enhance adherence rates and optimize healthcare outcomes.

## AUTHOR CONTRIBUTIONS

Conceptualization, Marta Portulez Gigante and Victoria Bell; Supervision, Victoria Bell; Writing – original draft, Marta Portulez Gigante; Writing – review & editing, Marta Portulez Gigante, Ana Rita Rodrigues and Victoria Bell

## CONFLICTS OF INTEREST

Authors declare no conflicts of interest.

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