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Potential for pharmacist prescribing in primary care: A Dutch citizen perspective

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ABSTRACT

Background: Medication prescribing by pharmacists is a task shifting approach to help ensure quality and accessibility of healthcare. In many countries, like the Netherlands, pharmacist prescribing is not legally ensured, and it is unknown what citizens think of its potential introduction.
Objective: To investigate citizen perspectives on the potential role of pharmacists in prescribing in primary care.
Methods: A Citizen Platform with citizens (>18 years) from the Netherlands was conducted in October 2022. This consisted of a one-day program in which the participants were engaged in interactive assignments and received expert presentations to foster the development of informed opinions. In the final assignment, 3 participant groups designed their ideal future scenario including preconditions regarding the role of the pharmacist in prescribing in primary care. All assignments were recorded, and notes were taken. The researchers then consolidated the 3 scenarios into one version and categorized the preconditions. The Citizen Platform results were summarized and subsequently discussed in 2 online focus groups with other citizens in February 2023 to investigate the perspectives of less informed citizens. Focus group discussions were audio-recorded, transcribed, and thematically analyzed.
Results: The Citizen Platform ($n = 10$) resulted in a shared scenario involving a primary care center where general practitioners (GPs) pharmacists and other healthcare professionals collaborate as a team. In this scenario, pharmacists can modify treatment in certain chronic diseases, manage minor ailments and support GPs with the care for patients with complex needs. Preconditions needed to realize this scenario include having shared medical records, the GP retaining the overview of the care for the patient and additional training for pharmacists. The focus groups ($n = 6$, in total) yielded 5 themes which acknowledge potential pharmacist prescribing but depict a more skeptical view towards pharmacist prescribing and include several concerns, for example pharmacists' potential conflict of interest.
Conclusions: Citizens that are informed about opportunities for pharmacy prescribing are capable of sketching potential scenarios for pharmacist prescribing in a collaborative primary care context. Less informed citizens seem more skeptical towards pharmacist prescribing.

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Introduction

The global aging population and increasing healthcare needs present challenges for national health systems. Concurrently, there is an increasing shortage of healthcare professionals, affecting patient safety and accessibility to appropriate pharmacotherapy.[1] Task shifting, defined as the rational redistribution of tasks to individuals within the healthcare team, may address these issues by making more efficient use of the available human resources and ease bottlenecks in healthcare delivery.[2–4] Medication prescribing authority has therefore been extended to other healthcare professions, such as nurses and pharmacists, with positive outcomes noted in terms of clinical endpoints, health-related quality of life, patient satisfaction, and access to medication.[5,6] Pharmacist prescribing has been introduced, mainly in Anglo-Saxon countries across the globe, and its form or model varies between and within countries. In the United Kingdom (UK) pharmacists can obtain independent prescribing authority that allow pharmacists to manage any diagnosed or undiagnosed clinical condition and prescribe any medication within their competence.[7] In other countries, e.g., the United States of America (USA) prescribing authority is restricted to a limited number of medications or clinical conditions, or dependent on collaborative practice agreements with one or more physicians.[8–10] In most countries, pharmacist prescribing does not formally exist, although the pharmacists' role in the promotion of appropriate prescribing and monitoring of treatment effects to ensure optimal patient outcomes has been recognized worldwide.[11]

Given the health workforce challenges described, healthcare systems without pharmacist prescribing may benefit from exploring if and what model of prescribing could be introduced and what preconditions should be addressed for its implementation in practice. Key to these questions are the perspectives of patients and the public. This perspective is crucial because it ensures that healthcare research outcomes align with real-world needs and experiences, leading to more relevant and effective healthcare interventions and policies. Studies that have investigated the patient or public perspective are generally supportive of granting pharmacists prescribing authority in specific situations, such as after diagnosis by a physician, for a limited range of clinical conditions, in emergencies, renewing prescriptions, and modifying dosage regimens.[10,12] In these studies, patients expressed optimism that pharmacist prescribing could enhance healthcare access, especially for minor ailments, and valued pharmacists' competence and communication skills. However, concerns were raised about pharmacist training in diagnosis, access to medical records, and privacy in a community pharmacy setting. Most of these studies were done in countries where some form of pharmacist prescribing already existed or was planned to be introduced.[10,12] It is unclear whether these findings apply to countries or settings without pharmacist prescribing legislation and no formal plans for introduction so far, such as the Netherlands. This study therefore aimed to investigate the citizen perspective on the potential role of pharmacists in prescribing in primary care in the Dutch context.

Methods

Study design and setting

This study had a qualitative design using a Citizen Platform method and, additionally, 2 semi-structured online focus groups to investigate the potential role of pharmacists in prescribing in primary care. The rationale for using a Citizen Platform method is that it involves citizens in discussions on complex issues who otherwise may have difficulties to partake in such discussions. In the Netherlands, the method was developed by Nivel, Netherlands Institute for Health Services Research,[13] inspired by the UK National Institute for Health and Care Excellence Citizens Council.[14] The core of the method is a one-day program where citizens are engaged in interactive assignments and receive expert presentations to foster the development of informed opinions. Examples of previously studied topics are relocation of healthcare, personal responsibility in healthcare and the value of *E*-health.[13,15] In addition to the Citizen Platform, online focus group discussions were held. The rationale for this addition was the small number of citizens participating in the Citizen Platform ($n = 10$) mainly due to last-minute cancellations (see the Population and recruitment and Results sections below). We therefore wanted to verify the findings and assess the perspectives of citizens who did not participate in the Citizen Platform.

This study focused on primary care in the Netherlands. Dutch community pharmacists do not have prescribing authority, but they have increasingly been engaged in pharmacotherapy through collaboration with physicians.[16,17] Most community pharmacists perform clinical medication reviews with general practitioners (GPs) and organize pharmacotherapy audit meetings where pharmacists and GPs structurally discuss pharmacotherapy and make agreements on local prescribing policy.[18] It has also become more common for community pharmacies to be co-located with general practices and one or more other primary healthcare practices (e.g., physiotherapy). Some pharmacists have started working within general practices.[16] While pharmacists do not have legal rights to prescribe, prescribing by other professions than GPs does exist in Dutch primary care, with advanced practice nurses and midwives having the authority to prescribe medications within their scope of expertise, focusing on less complex and routine care.[19] Additionally, some specialized nurses may prescribe a limited range of medications in their field (e.g., chronic lung disease) after a diagnosis by and based on a local agreement with a GP.

According to Dutch law, no ethical approval was required for this study. An ethical approval waiver was provided by the medical research ethics committee of the VU University Medical Center Amsterdam (METc Vumc; August 30th, 2022; reference number 2022.0487). All participants provided written informed consent before participation.

Population and recruitment

Adult (aged >18 years) citizens with interest in the functioning of the healthcare system and experience with community pharmacies were eligible to participate. In the Spring of 2022, a sample of 2000 members from the Dutch Consumer Panel Health Care that were invited to participate in an online survey on citizen trust in healthcare, were asked whether they were interested in participating in a Citizen Platform about the role of the pharmacist in primary care. These members were selected from the panel through stratified random sampling to ensure representativeness of the Dutch adult population based on age and gender. The Dutch Consumer Panel Health Care, managed by Nivel, aims to measure the attitudes towards, and knowledge of, healthcare among the Dutch adult population.[20] Inclusion criteria are that people must be aged 18 years and older, live in the Netherlands, and are able to understand Dutch. There are no exclusion criteria. Background characteristics from all panel members, such as age, gender, ethnicity, and highest level of education completed, are assessed at the start of the panel membership. In 2022, the panel consisted of approximately 11,000 people. Out of 1059 individuals who completed the survey (not part of this study) 79 expressed interest in this Citizen Platform and indicated to be available at the date the platform was planned (October 7th, 2022). From these interested individuals, a selection of 25 potential participants and 8 substitute participants were made, who were then invited to participate. Based on previous experience, 20 to 30 participants were deemed optimal to have a successful Citizen Platform. The selection of participants was based on variation in the following characteristics: gender, age, educational level, residential region in the Netherlands, and current prescription medication use (yes/no). For the additional online focus groups, all individuals who initially had expressed interest but had not participated in the Citizen Platform ($n = 69$) were approached by telephone to ask for participation.

Data collection

Citizen platform

The Citizen Platform took part on October 7th, 2022, with the overall objective to get informed opinions of citizens about the potential role of pharmacists in prescribing in primary care. The day consisted of different activities with breaks in between, in accordance with the Nivel Citizen Platform guidelines[21] (Box 1). Presentations were held by a community pharmacist (HFK) a GP, and the director of SIR Institute for Pharmacy Practice and Policy (AFS). The aim of the presentations was to inform participants about examples of the pharmacist's role in prescribing from different countries, about current GP-pharmacist collaboration, and pharmacists' education and competencies in the Netherlands. The presentations were alternated with group assignments (3 groups of citizens) that fostered participants' understanding of and opinions about the presented examples (Appendix A, Fig. S1). Each group eventually outlined and justified their ideal future scenario regarding the prescribing process in primary care in the Netherlands, specifically considering the pharmacist's role, and described the preconditions for such a scenario. Finally, 9 representatives of stakeholder organizations involved in pharmaceutical care in the Netherlands (the Ministry of Health ($n = 2$) the Dutch Healthcare Authority (NZa; $n = 1$) Royal Dutch Pharmacists Association (KNMP; n = 2) and community pharmacy chains/formulas ($n = 4$)) joined the Citizen Platform. Each participant group was asked to present their future scenario and its preconditions in a plenary session. The stakeholders were then divided among the groups and engaged in discussions about the presented future scenarios. This allowed participants to further reflect on their future scenario and adjust it if they wanted to do that. All group discussions were audio-recorded, and the findings of each group assignment were recorded on flip charts.

Focus groups

Two online focus groups, one on February 1st 2023 and one on February 3rd 2023, were held using Zoom as discussion platform. Two weeks prior to each focus group discussion, participants received an e-mail containing the summary of the findings of the Citizen Platform (see Data analysis below). They also received preparatory questions about whether there was anything unclear in the summary, what their thoughts were about the ideal future scenario including preconditions described in the report, and what they would envision differently in the scenario and its preconditions. These questions were developed by the researchers to be in line with the aim of the focus groups: to verify the Citizen Platform findings and assess the perspectives of citizens that did not participate in the Citizen Platform. During the focus groups, the discussions were moderated by 2 researchers (TK and LvT, and TK and AFS) using a focus group discussion guide containing the same topics as the preparatory questions (Appendix B). Each discussion was preceded by a 10-min presentation by one of the moderators about the Citizen Platform summary, focusing on the final consolidated future scenario including preconditions. The 2 focus group discussions were audio-recorded after participant consent.

Box 1
Citizen Platform Program as conducted on October 7th 2022. Translated from the original Dutch version.

Citizen Platform Program "The role of the pharmacist in prescribing"

9:30 AM Welcome and introduction to the topic

10:10 AM Presentation by a community pharmacist: "A Journey through Pharmacists Worldwide"

Presentation with 4 examples illustrating the various potential roles of pharmacists in the prescribing and dispensing process. It included hypothetical examples from Italy, the Netherlands, Scotland and New Zealand, based on the literature and the pharmacist's knowledge and experience. In the examples from Italy and the Netherlands, pharmacists did not have prescribing authority. In the Scottish example, the pharmacist could independently prescribe for minor ailments such as hay fever and eczema. In the example from New Zealand, pharmacists were allowed to prescribe for chronic conditions as part of a collaborative team within general practice (collaborative prescribing).

10:55 AM Group assignment: Prescribing and the Pharmacist's Role - Part 1

Citizens were provided a summary of the 4 examples on paper (Appendix A, Fig. S1) and engaged in group discussions (3 groups) about the potential (dis)advantages of the 4 presented examples, facilitated by 2 researchers. They were then asked to indicate a preferred example among the 4 presented and explain why they preferred that example.

11:30 AM Presentation by a general practitioner: "General Practitioners and Prescribing"

Presentation about the physician's perspective on prescribing, collaboration with pharmacists, and a personal perspective on pharmacists working in general practice.

12:15 PM Lunch break

1:20 PM Interactive presentation by the director of SIR Institute for Pharmacy Practice and Policy: "Skills of Pharmacists and Their Collaboration with General Practitioners"

Using statements, citizens gained a better understanding of the competencies community pharmacists gain during under- and postgraduate training, and of current patient information exchange between community pharmacists and general practitioners.

1:50 PM Group assignment: Prescribing and the Pharmacist's Role - Part 2

Citizens worked in the same 3 groups to outline and justify an ideal future scenario regarding the prescribing process in primary care in the Netherlands, specifically considering the pharmacist's role, and described the preconditions for such a scenario.

2:50 PM Group assignment: Discussion with Stakeholders

The 3 groups of citizens presented their scenario and preconditions to each other and stakeholders, and engaged in discussions with stakeholders on the topic.

3:50 PM End

Data analysis

Citizen platform

After the day program, one of the researchers (TK) digitalized the results of all group assignments by manually typing the flip chart texts into a Microsoft Excel file. The researcher then listened to all audio recordings to verify the results and to add remarks if anything was mentioned that was not recorded on the flip charts. The ideal future scenario including preconditions (second assignment) was considered the main outcome of interest. The preconditions related to each scenario were structured and categorized based on what emerged from the results. The results were first analyzed for each of the 3 groups. Due to the similarities and lack of contradictions between the results of different groups as interpreted by the researchers (Appendix C) all elements of the future scenarios and preconditions were consolidated into one version, reported in this manuscript. The terminology and phrasings in the consolidated version were kept as close as possible to those used by the participants. A layperson summary of the methods and findings was then written to be used for the focus groups.

Focus groups

The focus group recordings were transcribed using a professional intelligent verbatim transcription service and checked for accuracy by one of the researchers (TK). Inductive thematic analysis was then performed using NVivo (Version R1.7.1). First, 2 researchers (TK and MH) independently familiarized themselves with the data and coded the transcripts, followed by 2 iterations of a consensus meeting and recoding the data to decide upon the final codes, categories and overarching themes that emerged from the data. The Citizen Platform findings and focus group findings were reported separately.

Results

Out of 25 potential participants and 8 substitute participants that were selected and invited for the Citizen Platform, 16 agreed and confirmed to participate. Eventually, 10 individuals with variation in gender, age, level of education, geographical spread within the Netherlands, ethnic origin, and chronic medication in use (yes/no) showed up and participated in the Citizen Platform (Table 1). Thereafter, out of 69 additional individuals who were approached by telephone, 11 agreed and confirmed to participate in an online focus group discussion. Eventually, 6 individuals (4 in the first focus group en 2 in the second focus group) showed up and participated (Table 1).

Citizen Platform: consolidated future scenario

The consolidated future scenario, based on the scenarios from each Citizen Platform group (Appendix C, Table S1) is described as follows.

Table 1
Citizen platform (n = 10) and focus group (n = 6 in total) participant characteristics.

Characteristic	Number	
	Citizen Platform (n = 10)	Focus groups (n = 6 in total)
Gender, male / female / other	6 / 4 / 0	3 / 3 / 0
Age, minimum-median-maximum years	33 / 60 / 77	35 / 46 / 78
Highest completed level of education, low / middle / high	0 / 4 / 6	0 / 4 / 2
Region in the Netherlands, North / South / East / West	1 / 2 / 3 / 4	0 / 3 / 0 / 3
Ethnic origin, Dutch / non-Dutch minority	9 / 1	6 / 0
Current chronic medication in use, Yes / No	8 / 2	3 / 3

All primary care providers under one roof

Citizens described a future scenario where patients with a healthcare question that cannot be self-managed go to a primary healthcare center where the general practice and pharmacy are located, and jointly have access to the patients' medical record (Fig. 1). Upon arrival by the patient, the medical assistant determines which healthcare professional is most suitable for the patient, based on the patient's problem and needs. The medical assistant may refer the patient to any of the healthcare professionals at the center including the pharmacist. The composition of the team of healthcare professionals in the health center may depend on the local context and needs.

Prescribing based on competency

The healthcare professional consulting the patient, e.g., the pharmacist, can prescribe medication within their own expertise and counsels the patient upon prescribing. For certain chronic conditions, the pharmacist could prescribe after a diagnosis has been made by the GP. For certain minor ailments, such as hay fever and eczema, the pharmacist could be the first point of contact for treatment and management. Also, in collaboration with the GP, the pharmacist could have a prescribing and monitoring role in the care of patients with complex healthcare needs who are using multiple medications. The pharmacist can also proactively identify health issues in the patients they prescribe for, e.g., by conducting an annual screening of patient groups at risk. The role of the pharmacist could be expanded as needed and based on expertise.

Prescription verification and dispensing of medications by an independent person

After a prescription is issued and the prescription is verified by an independent person ("4-eye principle" to prevent conflicts of interest and abuse) the medication is dispensed to the patient at the pharmacy. This verification and dispensing are done by a pharmacy technician who also provides information and counseling. There is more time for this counseling, as the distribution and logistics of medications will be more efficient, possibly more centralized (regionally) online, and automated in the future.

Preconditions

According to the Citizen Platform participants, several preconditions are important to address when introducing their ideal future scenario (Table 2). First, the pharmacist needs to know the patient, be accessible to the patient and have time for the patient to prescribe. Second, GP-pharmacist collaboration is essential for pharmacist prescribing, which includes clear agreements about referrals and responsibilities, with the GP retaining an overview of the patient's care. Third, the pharmacist needs to have sufficient medical knowledge and communication skills, and needs to be willing to improve these competencies through additional training. Lastly, the patient's medical record needs to be shared securely between primary healthcare professionals and the patient, and the financing of the provided healthcare should be clear and straightforward to patients.

Focus groups

The focus group discussions about the consolidated future scenario and preconditions resulted in 5 themes with multiple categories (Appendix C, Table S2). The themes and underlying categories are described below, with illustrative quotes from the participants (P1-P6).

Recognition of problems in the current healthcare system

The focus group participants acknowledged that it is necessary to reduce the workload of healthcare professionals, but that solely task shifting from the GP to the community pharmacist may not be a solution to the current situation. There are larger problems, such as the non-functioning commercialization in healthcare or the unmanageable

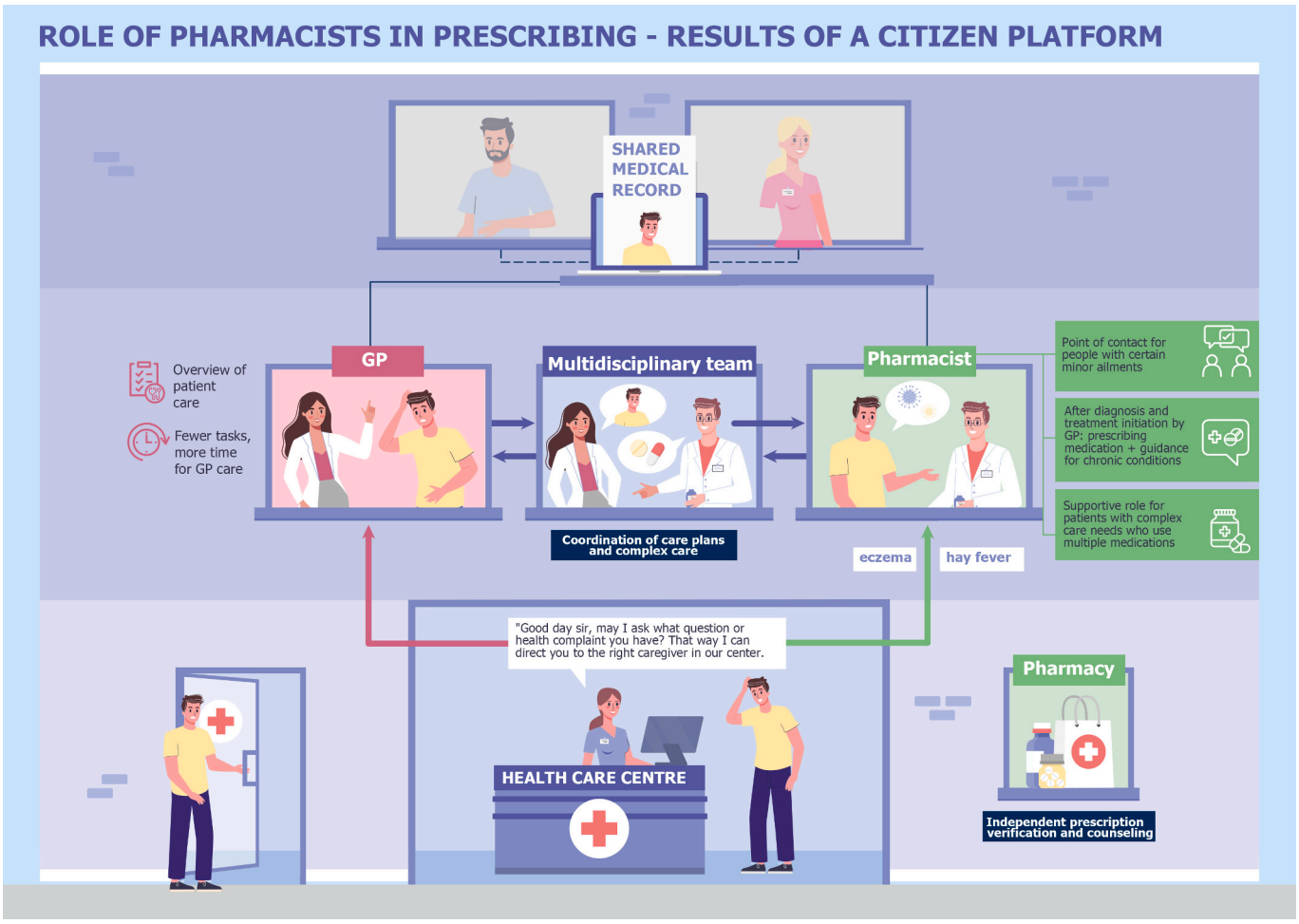

Fig. 1. An infographic summarizing the consolidated citizens' version of the ideal future scenario of medication prescribing in primary care including preconditions, considering the role of the pharmacist.

Table 2
Consolidated preconditions for the ideal future scenario of medication prescribing in primary care, considering the role of the pharmacist, according to the Citizen Platform participants. The preconditions have been organized into 4 categories (bold) maintaining the order in which participants listed the preconditions as much as possible. The full list of preconditions per group are listed in Appendix C, Table S1.

Knowing the pharmacist and accessibility
- The pharmacist as a prescriber is known and visible to the patient.
- The pharmacist has the time and opportunity to counsel the patient. This could involve a separate consultation room available, if needed.
- Patients preferably have a GP and pharmacist who they know.
Collaboration between healthcare professionals
- Clear agreements are made between the GP and the pharmacist regarding patient referrals between each other.
- The GP oversees the patient's care, and it is clear to both the GP and pharmacist who has which responsibilities.
- In complex cases, multidisciplinary discussions take place through equal collaboration between the GP, pharmacist, and possibly other healthcare disciplines within the team.
Pharmacists' competence
- The pharmacist needs to have more medical knowledge and communication skills. This requires additional training.
- The willingness to acquire the necessary competencies is a prerequisite for the pharmacist to assume the prescribing role.
Sharing medical data, privacy, and financing
- Each patient has one medical record that is shared between all healthcare professionals and the patient themselves, with privacy well-protected.
- There is a clear and straightforward financing structure regarding the provided healthcare so that discussions between the patient and healthcare professionals do not revolve around money.

GP, general practitioner.

demand for care, which need other solutions.

"Due to the enormous growth in the number of diabetes patients, the GP is getting thousands of patients more each year, so it's just no longer manageable. And then you can use a pharmacist that starts prescribing, but shouldn't we focus on preventing diabetes instead?" (P2).

The current view on the pharmacist

In general, the focus group participants had a skeptical view on the pharmacist's current roles. Just as some of the Citizen Platform participants, they regarded the pharmacist as "*invisible*" (P4) and were unfamiliar with their role in primary care. Some participants seemed to distrust the pharmacist and felt that the pharmacist's work was money-driven, which might lead to not providing the best care for patients. In their view, there are many things that the pharmacist can already improve without having to obtain prescribing authority.

"*I find it concerning if you indeed give more responsibilities and more authorities when, at its core, things are still not going well [in the pharmacy].*" (P6).

Scope of potential pharmacist prescribing practice

Although being more skeptical, the participants did acknowledge the potential for prescribing in minor ailments, renewing prescriptions, and support in the management of patients with multiple medications in use and with certain chronic conditions. Especially medication tapering and decreasing overmedication would be a suitable role for pharmacists.

"*Indeed, what [other person] is saying about overmedication, especially in the elderly, is very common. They have been taking the same pills for 20 years while they have changed in size, gained or lost weight, and all sorts of things have happened to them. Yes, they still have the same dosage, or maybe it is too much or too little. That's where a pharmacist should step in, they should look at that aspect and see what suits you at this moment.*" (P3).

Potential (dis)advantages of pharmacist prescribing

There were mixed thoughts about the potential benefits and risks of pharmacist prescribing. Some focus group participants felt that pharmacists could increase the quality of prescribing, whereas others thought about an increased risk of medication errors when pharmacists would for example misdiagnose. In terms of tapering medication and decreasing overmedication, it could lead to lower healthcare costs. Participants expressed concerns about fragmentation of healthcare and GPs not being able to maintain the overview if pharmacists would also prescribe. They also questioned whether pharmacist prescribing would reduce the physicians' workload and thought it would lead to shortages of pharmacists.

"I think the question shouldn't be whether the pharmacist should be granted prescribing authority to reduce the workload of the GP, but rather, […] that it can result in less costs within the healthcare system. It should certainly also improve the quality for the user, the patient. In an ideal situation, if you really see the pharmacist in a more independent [of the pharmacy's income] role, that could definitely be possible." (P1).

Barriers for pharmacist prescribing

Many preconditions for pharmacist prescribing were framed by the focus group participants as barriers in the current situation. First, tasks and responsibilities should be clearly defined, with the GP being the *"main responsible person"* (P1) for the patients' care. Second, the current situation where general practices and pharmacies are separate and private organizations may hinder interprofessional collaboration, because it puts focus on business aspects instead of what is best for the patient. Participants acknowledged the need for shared medical records, but some thought it would lead to issues related to responsibility and privacy.

"*The more my data is being shared, the greater the chance that unauthorized individuals access it.*" (P5).

Participants also acknowledged that the pharmacist and patient should know each other, and that pharmacists would need additional training to be competent to prescribe.

"If we're talking about minor ailments: maybe it would be wise to have a small training for that […] but you don't need to become a real doctor for that, and that for a limited number of medications, you could then achieve some reduction in the [GP's] workload." (P4).

Discussion

Key findings

This is the first study to employ a Citizen Platform method in pharmacy practice research. This method was combined with focus group discussions to explore citizen perspectives on the potential role of pharmacists in prescribing in Dutch primary care. The findings revealed a shared scenario among informed participants envisioning a primary care center where GPs, pharmacists, and other healthcare professionals collaborate as a team. In this scenario, pharmacists are envisioned to play roles in modifying treatment for certain chronic diseases, managing minor ailments, and to support GPs with patients requiring complex care. However, several preconditions were identified, including the need for shared medical records, clear task delineation between GPs and pharmacists, and additional training for pharmacists. The study highlighted a distinction between informed citizens (Citizen Platform participants) who saw opportunities for pharmacist prescribing, and less informed citizens (focus group participants) who tended to be more skeptical. Therefore, another precondition for the envisioned scenario emerged after the focus groups: citizens require clarity regarding the pharmacist's current role in primary care, as they have concerns about pharmacist integrity and potential conflicts of interest.

The findings of this study align with previous research that investigated the patient or public perspective on pharmacist prescribing mainly performed in countries that have some form of pharmacist prescribing.[10,12] These studies generally indicate support for pharmacist prescribing in specific situations, such as after a physician's diagnosis, prescription renewals, minor ailments, or restricted to a list of medications. Patients perceive prescribing by pharmacists as likely to improve access to healthcare and make better use of pharmacists' expertise.[10] Just as within our study, participants in several studies raised concerns related to liability and the trust in pharmacists' integrity and ability to prescribe, i.e., expressing the need for pharmacists to have undertaken additional training and the need to know the patient. These concerns seem more common pre-implementation than in post-implementation studies.[10] In a study from the UK, patients suggested that the popularity of pharmacist prescribing would take time to increase while patients and pharmacists would build their relationship.[22] Trust is an important aspect of such relationship as was shown in a recent case study, conducted by our research group, that explored the pharmacists' current roles in and potential for prescribing in primary care in the Netherlands [unpublished; currently under review]. In line with our Citizen Platform findings, patients also explicitly stated that they would trust pharmacists in a prescribing role as long they collaborated with GPs.

The collaborative team setting envisioned by citizens in this study resembles current collaborative prescribing practices in other countries.[8,23] E.g., in the USA, collaborative practice agreements allow pharmacists to prescribe certain drugs on the physicians' behalf dependent on what has been agreed upon.[8] In New Zealand, pharmacists that are part of a multidisciplinary healthcare team can initiate or modify pharmacotherapy after the diagnosis has been made by the GP.[23] Even in the UK, where pharmacists can obtain independent prescribing rights, pharmacists mainly use these rights within collaborative care settings.[24]

Strengths and limitations

A notable strength of this study lies in its innovative approach, leveraging the Citizen Platform method to involve citizens in discussions on complex issues and gain their informed opinions. However, achieving the right balance between providing adequate information to participants for opinion formation while avoiding undue influence from experts and researchers is paramount. To address this concern, our approach involved critical examination of program content and ensuring diverse input from experts with a non-pharmacy background (i.e., social science and (bio)medicine).

An important limitation to acknowledge is the limited participant turnout and a notable number of no-shows, likely influenced by the COVID-19 pandemic context in 2022. Participants varied in terms of characteristics, although there was no participant with a low level of education and only one with a non-Dutch ethnic origin. We did not strive for data saturation but did manage to capture a broad spectrum of perspectives, including those expressing skepticism towards expanded pharmacist roles. No comprehensive qualitative data analysis was conducted for the Citizen Platform findings. We refrained from conducting comprehensive qualitative analysis of the Citizen Platform data, focusing instead on representing participants' own expressions and viewpoints. Conversely, for the focus groups, a rigorous thematic analysis was performed, providing complementary insights to the Citizen Platform findings. Finally, the study's focus on the Dutch primary care context may restrict the generalizability of its findings to other healthcare systems, although the envisioned scenario seems similar to current practices in other countries.

Implications for policy and research

This study has implications for policymakers and other stakeholders considering the introduction of pharmacist prescribing. It provides examples and possibilities for prescribing roles for pharmacists in primary care. Addressing preconditions such as accessibility to medical records and clear task delineation between healthcare professionals is crucial for successful implementation. For the Netherlands, this study may be the first step in building evidence towards the introduction of pharmacist prescribing legislation. Further research is needed to explore citizen or patient perspectives in larger and more representative populations and to gather input from other stakeholders. The Citizen Platform method shows promise as a tool for eliciting informed opinions on complex healthcare issues, also within pharmacy practice, and may be used in future research in clinical and social pharmacy.

Conclusion

Citizens that are informed about opportunities for pharmacy prescribing are capable of sketching potential scenarios for pharmacist prescribing in an interprofessional collaborative primary care context. Less informed citizens seem more skeptical towards pharmacist prescribing. Policymakers and other stakeholders should ensure that the preconditions and concerns identified in this study are addressed prior to the introduction of pharmacist prescribing legislation.

CRediT authorship contribution statement

Thomas G.H. Kempen: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Liset van Dijk:** Writing – review & editing, Resources, Project administration, Methodology, Investigation, Funding acquisition, Conceptualization. **Annemieke Floor-Schreudering:** Writing – review & editing, Methodology, Investigation, Funding acquisition, Conceptualization. **Aradhana Kohli:** Writing – review & editing, Methodology, Investigation. **Henk-Frans Kwint:** Writing – review & editing, Methodology, Investigation, Funding acquisition, Conceptualization. **Laura Schackmann:** Writing – review & editing, Methodology, Investigation. **Lilian H.D. van Tuyl:** Writing – review & editing, Methodology, Investigation, Funding acquisition, Conceptualization. **Mette Heringa:** Writing – review & editing, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization.

Declaration of generative AI and AI-assisted technologies in the writing process

During the preparation of this work, the corresponding author used ChatGPT 3.5 in order to improve readability and English language. After using this tool, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.rcsop.2024.100453.

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