






BMJ Open Strategic interventions and a novel model for the integration of community pharmacy and primary care in Spain: qualitative insights

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ABSTRACT

Objectives To explore the opinions and perceptions of key stakeholders on the integration between community pharmacy and primary care, within the Valencian Autonomous Community. Specific objectives include identifying strategic interventions to facilitate this integration. Additionally, the manuscript discusses the formulation of a novel model for the integration of community pharmacy and primary care.

Design Qualitative, with data from five virtual focus groups (FG) and 12 semistructured interviews analysed thematically using NVivo and interventions prioritised through a virtual nominal group technique.

Setting Valencian Autonomous Community (Spain).

Participants FG involved community pharmacists (CP) and primary care stakeholders including general practitioners, primary care nurses, general practitioner pharmacists, social services managers and administrators. Interviewees were government representatives and professionals from organisations. Selection was through snowball sampling and invitations by Official Colleges of Pharmacists.

Results Five themes emerged, revealing the multifaceted nature of integrating community pharmacies and primary care. 'Integration' was identified as an ambitious target, anchored in collaboration and communication efforts. The role of CP was particularly noted for their direct patient interaction and trust, vital in fostering medication adherence. Barriers like role ambiguity and regulatory environment were highlighted. Seven interventions were identified to enable integration, with three of them prioritised: 'bidirectional communication', 'protocol standardisation' and 'multidisciplinary team strengthening'. These interventions, linked with prior components of health system integration, led to a pioneer integration model.

Conclusions Recognising stakeholder insights is essential in shaping workable, practical and adaptable models for integration. Tailoring these temporal models to stakeholders' immediate needs and strategic priorities may serve as effective starting points for integration. Support from professional bodies and proactive stakeholders' engagement will optimise the integration success and its acceptance across healthcare levels.

STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ Used a participatory approach with stakeholders from primary care and community pharmacy, ensuring diverse insights and comprehensive representation.
- ⇒ The study's data collection was conducted exclusively online, which, while increasing accessibility, may have limited the depth of engagement in discussions.
- ⇒ The findings are specific to the Valencian Autonomous Community, which may limit their generalizability to other health systems.
- ⇒ The purposive and snowball sampling strategies, while effective in engaging relevant stakeholders, might not have captured the complete spectrum of perspectives within the broader community.
- ⇒ The virtual nominal group technique, while valuable for building consensus, was constrained by the relatively small number of participants involved.

INTRODUCTION

In the evolving landscape of global healthcare, the concept of health system integration has become increasingly important.^{1,2} Integration refers to unifying efforts across different areas of the health system, ensuring optimal resource and service allocation.^{3,4} Integration is increasingly recognised as a pivotal response to the complex challenges facing contemporary health systems: intensified care demands, equity gaps, growing waiting lists and escalating healthcare costs, compounded by the growing prevalence of chronic, multimorbid and polypharmacy patients.^{5–8} These systemic issues, particularly impacting primary care and hospital settings, underscore the urgency of exploring innovative solutions beyond short-term strategies, like increasing medical staff or expanding hospital infrastructures.^{9,10}

In Spain, the decentralisation of healthcare systems to regional authorities permits

the establishment of strategies tailored to local needs in healthcare management and organisation.¹¹ The Valencian Autonomous Community, comprising the three provinces of Alicante, Valencia and Castellon, exemplifies this decentralised approach with its health departments and areas, attempting to provide comprehensive healthcare. Healthcare structures exist across three levels: the 'micro' level focusing on direct patient interactions and primary care systems, the 'meso' level on organisational management within health services at a regional level and the 'macro' level on overarching policies and regional healthcare directives.¹²

Across healthcare systems, community pharmacies and pharmacists play a crucial but commonly underestimated clinical and preventive role in primary care.^{13 14} Despite their contribution to healthcare and public health initiatives, community pharmacies appear to be marginalised in the larger narrative of health system integration.^{15 16} Traditionally viewed as retailers rather than healthcare establishments, their potential in community health remains largely untapped.¹⁷ With their wide distribution, accessibility and medication expertise, community pharmacists (CP) and pharmacies are uniquely positioned to alleviate the burden on primary care by offering services such as minor ailment management, medication adherence and targeted health education among others.¹⁸

However, despite this potential, current efforts in the literature tend to focus on improving communication, coordination and cooperation between general practice and community pharmacy, rather than on achieving full integration.¹⁹ The literature has predominantly focused on improving collaboration, yet the steps required to establish an integrated system remain unclear.^{10 20} This study aims to address that gap by exploring strategic interventions to facilitate the integration of community pharmacies and primary care centres.

By gaining insights from stakeholders, this research aims to inform optimal strategies and policy-making by identifying barriers and facilitators of the integration process. The purposes of this qualitative study, building on existing studies on health system integration, are as follows:

- ▶ To explore the opinions and perceptions of key stakeholders regarding the integration between community pharmacies and primary care centres within the Valencian Autonomous Community.
- ▶ To identify strategic interventions to facilitate the integration of community pharmacies and primary care centres.

Additionally, this study discusses the formulation of a novel model for the integration of community pharmacy and primary care, based on the results obtained.

METHODS

Research design and approach

This study employed a qualitative descriptive approach, grounded in an interpretivist research paradigm.²¹ The

choice of this paradigm was driven by the need to understand the subjective meanings and interpretations of stakeholders regarding the integration of community pharmacy and primary care settings.

Research team and reflexivity

The study was conducted by pharmacy practice researchers, with no prior relationship to the participants. Reflexivity was maintained throughout the research process, with the team regularly reflecting on their assumptions and the potential influence of their backgrounds on the research findings.

Context and setting

The fieldwork was conducted online via Zoom with stakeholders within the Valencian Autonomous Community of Spain. This virtual setting allowed for a broader inclusion of participants across the three provinces—Alicante, Castellon and Valencia—overcoming geographical and logistical barriers.^{22 23}

Sampling strategy

Participants were purposively selected to represent a broad spectrum of stakeholders due to their direct involvement and understanding of the healthcare settings, organisational and management matters. These stakeholders are pivotal as they possess first-hand knowledge of patient care dynamics, operational challenges and potential opportunities for system improvement. They were identified and selected by key agents within each Official College of Pharmacists, guided by health system organisational charts. This process was enhanced by snowball sampling, encouraging initial participants to recommend additional participants. Each participant was formally invited to the study with an invitation letter by email.

Data collection method and process

Semistructured interviews (SI) and focus groups (FG) were used for generating ideas and data collection.²² FG were employed at the microlevel to facilitate in-depth discussions. This method was chosen to capture a detailed understanding of the real-world context of healthcare delivery, directly from those involved in its day-to-day operations. For the mesolevel and macrolevel, individual SI were chosen to engage organisational leaders and policymakers. This method allows for targeted, confidential discussions, crucial for understanding complex organisational structures, policy-making processes and strategic planning. These interviews were essential for exploring the nuanced aspects of health systems management and policy implications at higher organisational levels. The interview topic guide, which provided a consistent structure for both FG and SI, can be found in online supplemental material.

At the microlevel, between October and November 2023, five FG were conducted—one with participants from Castellon, two from Valencia and two from Alicante—comprising six to nine healthcare stakeholders

each, with a total of 40 professionals. This included nine CP, 11 general medical practitioners (GP), six primary care nurses, six general practitioner pharmacists (GPP), three social services managers (SSM) and five administrators. Sessions spanned 1 to 1½ hours, moderated by a researcher.

At the mesolevel and macrolevel, from October to December 2023, 12 individual SI were conducted by a researcher to delve into organisational and policy dimensions, incorporating policymakers and representatives from professional organisations. The interviews had an average duration of 31 min.

Triangulation of data sources was employed to enhance the credibility of findings. Data were transcribed verbatim, managed using NVivo software and coded for anonymity. For qualitative analysis, thematic analysis was chosen for its effectiveness in understanding the patterns within the data set, proceeding through Braun and Clarke's six-phase methodology.^{24 25}

Following the qualitative content analysis in February 2024, a modified virtual nominal group technique was initiated. Through this process, interventions identified during the SI and FG were ranked by importance and feasibility, with each intervention assigned a feasibility score from 1 to 10, with 10 indicating the most feasible and 1 the least. For importance, interventions were scored from 1 to 7 by each participant, where 7 indicated the most important and 1 the least. The same participants from the FG and SI were involved in the nominal group discussions. They were given the opportunity to suggest changes or add new interventions, but none were proposed, and all interventions were confirmed without modification. This adaptation is justified by the prior qualitative phase and the involvement of the same participants, ensuring the ideas were thoroughly explored and validated. Supported by relevant literature, this approach also triangulated the findings.²⁶ The voting proceeded sequentially. The interventions were discussed by seven participants in the nominal group representing various organisational levels—one at the macrolevel, one at the mesolevel and five at the microlevel. Consensus was sought on the key actionable ideas, drawing on the combined wisdom of the group.²⁷ This methodological approach was instrumental in selecting practical interventions, optimising that each intervention's score reflected its perceived value and implementation potential. The linkage between the interventions and the components of theoretical models of integration allowed the development of a temporal integration model to be included in a research protocol aimed at integrating community pharmacy and primary care (figure 1). Results were reported in accordance with the Consolidated criteria for Reporting Qualitative research checklist (see online supplemental file 1).^{21 28}

RESULTS

FG and SI

Five themes emerged from the analysis of FG and SI reflecting the convergence of ideas and concepts across

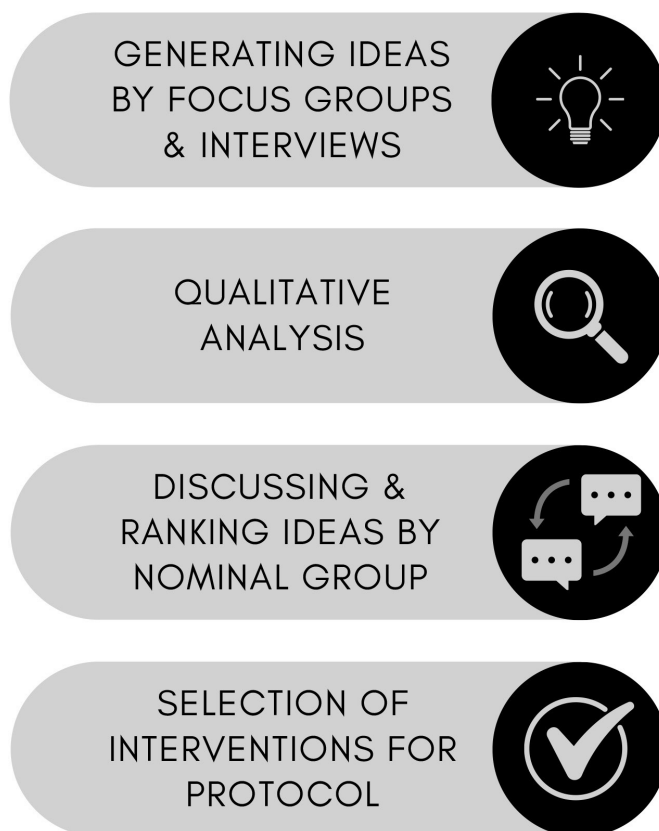


Figure 1 Flowchart of qualitative process: the stages and methods employed in the qualitative data collection process.

the data. The recurrence of these themes made it logical to merge them, allowing for the findings to be reported in a cohesive manner. This logical consolidation was driven by the observation that the same themes kept surfacing, indicating a shared understanding and relevance across different data sets.

Theme 1: Conceptualisation of integration

Overall, all participants considered the term integration as an ambitious result of a lengthy and gradual process. Emphasis was often placed on related concepts such as communication, coordination and collaboration, which were sometimes conflated with the broader concept of integration.

One might better describe [integration] as communication, which I believe is the main deficiency we face. (GP3_FG4).

Integration should be the final objective, but it starts with smaller steps like enhancing communication and collaboration. (GPP_FG1).

Theme 2: Perception of community pharmacies and pharmacist

Community pharmacies and pharmacists were recognised as accessible, professional and closely connected to patients, with significant yet underexploited potential. Pharmacists were deemed crucial in ensuring medication

adherence and early detection of social health issues, such as depression, and loneliness.

The pharmacist is a health care professional who should be integrated into the health system, as they are highly qualified individuals with direct patient contact. You do not need to make an appointment to see and consult a pharmacist for unexpected situations. (SI_06, President of a Regional Patients Association).

We can see whether a prescription has been filled or not, but you [community pharmacist] have a more direct contact and can thus detect whether it's actually been taken, making compliance paramount. (GP_FG2).

Theme 3: Barriers to effective integration

The analysis identified two primary types of barriers: *cultural barriers*, related to the attitudes, beliefs and practices of healthcare professionals, and *systemic barriers*, tied to laws and regulations that obstruct the integration process.

One cultural barrier is *competency clashes and the fear of professional encroachment*. "...sometimes we see [CPs and GPs] each other not as rivals but you have your field and I have mine, and it seems that there is some back and forth sometimes that I don't understand" (GP3_FG4). This sentiment reflects the territorial separation between healthcare fields, limiting integration.

Another challenge is *patient stewardship conflicts*, where professionals disagree over who 'owns' the patient's care. "...the patient tells us things they don't tell the doctor, and the doctor thinks they don't tell the pharmacist, and often these are the focus of arguments and disputes among us" (SI_08, President of the Official College of Pharmacists). Additionally, another participant stated, "...the patient at home mainly sees the nursing staff who attend to dressings, abrasions, ulcers and so on, not the pharmacist or the doctor" (SI_13, Senior Health Official from the Valencian regional government), which exemplifies the conflicting perspectives on patient care responsibilities.

A third cultural barrier involves *interprofessional knowledge deficits*, where there is a lack of understanding of each other's roles. As one participant remarked, "There are doctors who, when they spend some time in a pharmacy, are really amazed at the work being done there, and we also often don't know all their clinical practice [CPs], and the work they do—meetings and such—and this must end" (SI_08, President of the Official College of Pharmacists). These knowledge gaps contribute to the friction and lack of integration between professionals.

Bureaucratic barriers were identified as a significant issue: "Health Centers have a schedule we need to be able to document things" (CP2_FG1). Another participant added, "...we have a lot of bureaucratic workloads, and that is difficult to navigate" (SI_11, Representative

of the Pharmacist Colleges Council of the Valencian Community).

In addition, *variability in professional engagement* was highlighted, where levels of commitment to integration can differ. "There will be those who don't pose a problem and others who do because of the economic interest that may come from prescribing or selling a drug or a more expensive product, but it mostly depends on the personal integrity of the person behind the pharmacy counter" (GP2_FG4). Another participant echoed this: "...we all know that not everyone works the same way and doesn't have the motivation that some of us do" (GPP_FG2).

Moreover, *the private nature of community pharmacy* creates a divide between the public and private sectors. "It must be taken into account that community pharmacies are private establishments with a profit motive. And we work in a public health system. Integration would have to be seen from the perspective of private enterprise integration with public enterprise" (SSM_FG1).

Technological challenges also emerged, particularly related to the adaptation of different systems and ensuring data privacy. "A big problem is the different programs we work with. When we talk about more communication, the integration of all these programs... I see it as very complex" (GPP_FG1). *Clinical data privacy* was also highlighted as a major issue: "Sharing the clinical history is one of the main barriers, especially because of the Data Protection Law" (CP_FG2). The complexities of data sharing between healthcare providers create significant hurdles in achieving effective integration.

Legal restrictions on prescribing were another significant barrier, preventing pharmacists from fully participating in patient care: "...we cannot prescribe [CP], and we risk substantial fines if we overstep these boundaries, so we stick to recommending over-the-counter drugs to minimize risks" (CP1_FG4).

The *evolving pharmacy market* creates barriers to integration, as pharmacists risk being sidelined if they do not adapt: "...the technological revolution and the digital revolution open up the possibilities for virtual operators to occupy part of the market share that CPs currently have" (SI_02, Health Economist); "...we are very afraid of any kind of dispensation via Globo, Amazon, etc., that is, we are handling medications. Poor management of these medications can lead to a very serious situation." (SI_03, President of the National Patients Association).

Lastly, *health policy leadership* and the need for *pharmaceutical regulatory flexibility* were seen as vital to successful integration: "Health planning is short-term, that means that whoever governs, governs for 4 years, so things as necessary as home care, where members of the different health roles could act, they are not going to do it, why, because the investment is always stopgap." (SI_09, Representative of the Valencian Community Nursing Council); "...our sector is always subject to regulatory rigidity that prevents everything we are going to do from being addressed in an agile way." (SI_11, Representative of the Pharmacist Colleges Council of the Valencian Community)

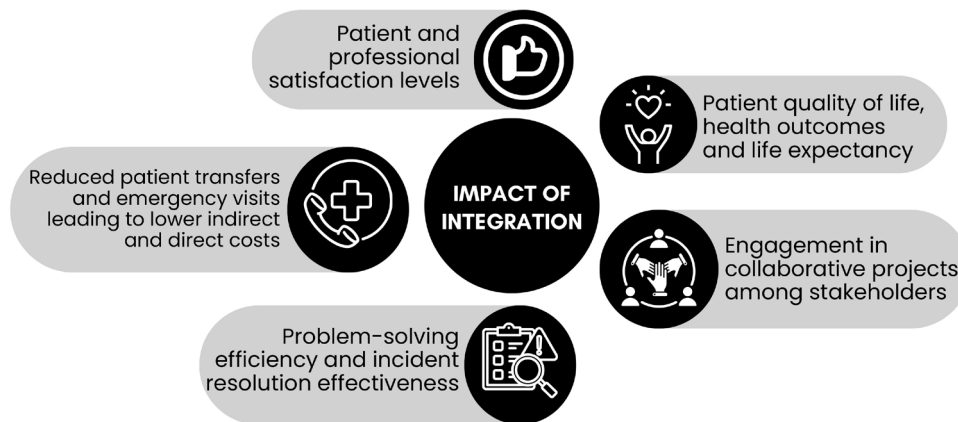


Figure 2 Impact of integration: the effects of integrating community pharmacy and primary care, as suggested by participants in focus groups and Semistructured interviews.

Theme 4: Level and intensity of integration

The integration of community pharmacies and primary care centres spans multiple layers, from local actions (microlevel) to broad political collaboration (macrolevel). Participants recommended a gradual approach, starting with small-scale pilot projects to test and validate practices, then scaling up to wider areas. Cross-disciplinary leadership, professional associations and patient groups were seen as pivotal for driving normative changes and ensuring the sustainability and effectiveness of the initiatives. Various challenges and outcomes of integration were suggested during FG and SI (figure 2).

We need an effort from professional associations and administrations to really plan the future healthcare

we want, where community pharmacy is integrated into the National Health System. (SI_01, President of a Pharmaceutical Distribution Company)

It's crucial to start with small results, small pilots, showing that what you propose works. (SSM_FG4)

Theme 5: Interventions identified for integration

Seven specific interventions that could initiate the integration of community pharmacies and primary care centres were identified. These are presented in table 1.

Nominal group

These seven preidentified interventions were critically examined for their importance and feasibility in

Table 1 Interventions for integration of community pharmacy and primary care

Intervention	Concept
Implementation of a bidirectional communication channel	Establish effective communication methods to enable the exchange of information and feedback between community pharmacists and primary care professionals.
Protocol standardisation	Create shared decision-making algorithms for various health procedures, such as hypertension, asthma or diabetes, facilitating the sharing of screenings, management and monitoring among healthcare professionals.
Community engagement and health education initiatives	Foster consensus-driven initiatives between patients and healthcare professionals to tackle a variety of health topics, on healthy behaviours including diet, alcohol consumption, smoking and physical activity; therapeutic adherence; and the importance of self-care.
Participation in health campaigns	Coordinate health campaigns between community pharmacy and primary care to develop clear and cohesive messages that strengthen health campaigns for health prevention and promotion.
Therapeutic management from community pharmacy	Establish collaborations for enhanced care. This includes dose adjustments, medication renewals with doctor's approval and local dispensing to minimise hospital visits, aiming to improve care continuity and medication management, pending legislative updates for contractual integration.
Access to pharmacotherapeutic history from community pharmacy	Enable community pharmacists to access patients' medication histories for proactive pharmaceutical care. They could incorporate biopsychosocial information, over-the-counter drugs or private prescriptions that may interact with prescribed treatments.
Collaboration for multidisciplinary team strengthening	Facilitate activities aimed at joint education and time-sharing among health professionals to promote mutual understanding, trust building, and consensus achievement. This includes regular meetings and collaborative clinical sessions, conferences involving pharmacists, physicians, and scientific societies, workplace visits, and the creation of integration maps detailing the health centres and community pharmacies in the area.

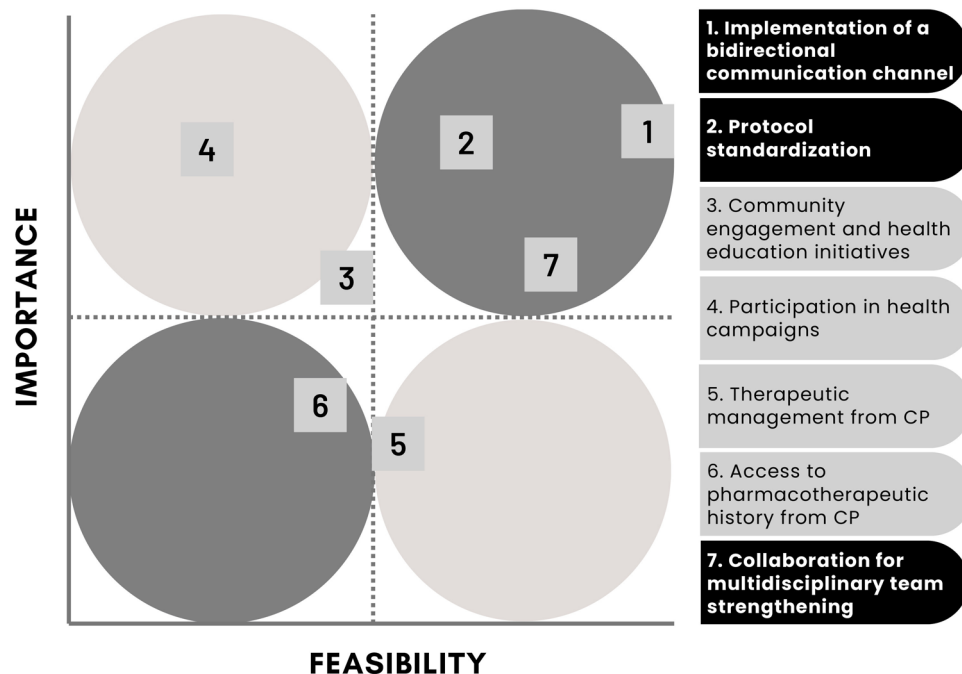


Figure 3 Feasibility and importance matrix of community pharmacy and primary care integration interventions: the results of the nominal group voting process, showing the prioritisation of interventions based on their feasibility and importance, as proposed during the focus groups and semistructured interviews. CP, community pharmacists.

a nominal group session. Despite considerations for consolidation, the participants reached a consensus to maintain all seven interventions as distinct entities. A priority matrix was developed from the voting outcomes, revealing consensus among diverse participant profiles. The ‘implementation of a bidirectional communication channel’ emerged as the top intervention for its importance and feasibility. Additionally, ‘protocol standardisation’ and the ‘health professional collaboration for multidisciplinary team strengthening’ were highlighted as short-term integration priorities (figure 3).

DISCUSSION

This work has uncovered five central themes, reflecting the complexity of integration, the perception of community pharmacy and the barriers to effective integration with primary healthcare. It also addresses the impact of integration and identifies specific interventions to facilitate this process. The study emphasised that integration should be a gradual process with different stages, aligning with theories such as complex adaptive systems theory,²⁹ which highlights adaptability and stakeholder interaction in nonlinear processes, and the integration degree theory, which advocates for a phased approach starting with foundational elements.^{30 31} Integration remains as an ambiguous concept, being confused with other terms such as communication or coordination.³² Clearer definitions are necessary to demarcate integration from these related but distinct concepts.

Community pharmacy was perceived by participants as a reliable and patient-focused aspect within the healthcare sector, garnering trust through their patient-centred

services. However, this recognition is juxtaposed with an array of cultural and other barriers that challenge their full integration into the broader health system.³³ Cultural barriers manifest as conflicts over competency, where fear of professional encroachment creates silos and hinders collaborative efforts.³⁴ This tension is exacerbated by discrepancies in stewardship of patient care, leading to discordant patient–provider interactions. Interprofessional knowledge deficits further complicate the landscape, as misunderstandings of roles and expertise prevent cohesive healthcare delivery. Bureaucratic barriers contribute to this complexity, creating red tape that stifles innovation and agility within and between practice settings. Structured communication, cross-training and team-building exercises, including face-to-face interactions, may be essential in dismantling these barriers, fostering trust and cultivating a shared mission among healthcare providers.³⁵

In parallel, other barriers such as the private nature of community pharmacy, challenges in technological harmonisation and restrictive prescription practices call for an evolution of policies and regulatory frameworks.^{7 36 37} This evolution would create pathways for integration, allowing for fluid data exchange while safeguarding patient privacy. A proactive review of health policy leadership and regulatory flexibility is required to navigate the shifting terrains of the pharmacy market.³⁸ Through such strategic policy amendments and embracing digital innovations, community pharmacies can better align with public health objectives and emerging market dynamics, ensuring their pivotal role in healthcare delivery remains both robust and relevant.³⁴



at a low intensity, including enhanced ‘communication’ through the creation of a communication channel that streamlines stakeholders interactions; ‘roles’ clarification, with stakeholders engaging in shared meetings and clinical sessions, to gain a clearer understanding of each other’s roles in patient care; ‘context’, ‘culture’ and ‘shared vision, values, goals and trust’ emerging from strengthened collaboration among multidisciplinary teams and standardised health protocols to align overarching objectives; progress in ‘stakeholder management’ as all involved work towards building relationships and synchronising efforts, primarily by standardising protocols. Lastly, ‘colocation’ which is underscored by the activities or meetings that take place within healthcare centres involving CP.

Although funding and governance structures are critical for long-term sustainability, they are not the primary focus in this model. These components, alongside technological connectivity and community engagement, are anticipated to play a more central role in future iterations as the system becomes increasingly adaptive for more extensive integration efforts¹⁰ (figure 4).

The progress and number of temporal models will be determined by pilot results and continued research, underscoring the importance of flexible strategies that accommodate the dynamic nature of healthcare and stakeholder insights. This temporal model serves as an initial framework, with the understanding that it will evolve and adapt as integration progresses. Further investigation will be crucial for evaluating these models’ efficacy and their impact on health system integration.

Strengths and limitations

The strength of this study lies in its participatory approach, incorporating a wide range of voices directly involved in community pharmacy and primary care. Additionally, the use of data triangulation and the nominal group method to prioritise interventions enhances the reliability of the findings. Nonetheless, it is crucial to acknowledge the study’s limitations. A notable limitation is the region-specific focus which, while providing an in-depth analysis of a particular health system, may not be generalisable to other contexts due to differences in health structures, cultures and legislation. Moreover, the data collection conducted exclusively online could influence the nature and depth of discussions, though it also allowed for broader participant inclusion.²³

While employing purposive sampling and snowball techniques, the participants’ opinions may not reflect the entire spectrum of existing perspectives. This limitation can impact the applicability of the results, given that the identified interventions might not fully address the challenges perceived by those not included in the study.

Despite these limitations, the study increases the understanding of community pharmacy and primary care integration. It has identified key interventions that, if implemented, could significantly improve the coordination and quality of healthcare. Furthermore, the study

provides a foundation for future research and for the development of health policies aimed at more effectively integrating community pharmacy within the primary care system, which is crucial for addressing the increasing demand for health services and the management of chronic diseases and polypharmacy.

CONCLUSIONS

This study highlights the integration of community pharmacies and primary care as a complex but achievable goal. It emphasises the importance of clear communication and the need for a well-planned, gradual approach to implementation. The seven key interventions proposed open the possibility for developing step-by-step integration models that meet stakeholders. The success of these interventions depends on changes in laws and overcoming cultural obstacles with careful consideration. This adaptable and proactive strategy is essential for policy-makers and health managers as the healthcare landscape continues to change and as we engage with stakeholders. Ongoing assessment is essential to understand the impact of these temporary models on the integration of the health system.

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Patient consent for publication Not applicable.

Ethics approval This study involves human participants. This study was conducted with human participants and received approval from the Andalusian Biomedical Research Ethics Committee (code: INT_VAL23) and the Ethics Committee on Human Research (CEIH) of the University of Granada (number: 3652/CEIH/2023). Participants gave informed consent to participate in the study before taking part.

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