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ORIGINAL RESEARCH

Community Pharmacists' Views on the Early Stages of Implementation of a National Pilot Independent Prescribing Service in Wales: A Qualitative Study

Efi Mantzourani[1,2,*], Rhian Deslandes[1,*], Karen Hodson[1,*], Andrew Evans[3], Lydia Taylor[1], Cherie Lucas[4]

[1]Cardiff School of Pharmacy and Pharmaceutical Sciences, Cardiff University, Cardiff, Wales, UK; [2]Primary Care, Digital Health and Care Wales, NHS Wales, Cardiff, Wales, UK; [3]Primary Care Services, Welsh Government, Cardiff, Wales, UK; [4]Graduate School of Health (Pharmacy Discipline), University of Technology Sydney, Sydney, New South Wales, Australia

*These authors contributed equally to this work

Correspondence: Efi Mantzourani, Redwood Building, Cardiff School of Pharmacy and Pharmaceutical Sciences, King Edward VII Avenue, Cardiff, Wales, CF10 3NB, UK, Tel +44 2920 870452, Email Mantzouranie1@cardiff.ac.uk

Background: A pilot Independent Prescribers' Service (IPS) was introduced in 13 community pharmacies across Wales in June 2020. Independent Pharmacist Prescribers (IPPs) could prescribe in the areas of management of acute conditions, contraception, or opioid withdrawal, as agreed with local commissioners. Access to the patients' medical records was provided via *Choose Pharmacy*, the national community pharmacy IT platform.

Objective: To explore the experiences of IPPs delivering the service and commissioners responsible for financial resources regarding the IPS in Wales.

Methods: A qualitative methodology was employed, with purposive sampling, semi-structured interviews, and inductive thematic analysis.

Results: Five themes were constructed from 13 interviews (n=9 IPPs; n=4 commissioners): (i) patient experience and safety; (ii) professional enablement and rebalancing workload of GPs; (iii) role and limitations of remote consultations; (iv) funding and business model; (v) functionality on *Choose Pharmacy* to support patient care. The design of the service allowed pharmacists to determine how best to deliver the IPS, maximizing access for patients and promoting a sense of professional value amongst pharmacists.

Conclusion: This study builds on the body of evidence on enhanced patient experience with prescribing services in the community, reinforcing that IPPs have a key role in rebalancing management of common conditions from GP surgeries to community pharmacies. Several considerations need to be addressed to ensure future success of the service implementation, delivery and enhanced sustainability, such as formal referral pathways and access to medical records. These can be used by other commissioning bodies in the UK and internationally to build a network of suitably supported IPPs, confident to appropriately deal with uncomplicated acute and chronic conditions; and liaise with primary and/or secondary care when referrals are needed.

Keywords: non-medical prescribing, independent pharmacist prescribing, *Choose Pharmacy*, patient safety, patient experience

Introduction

Prescribing rights in the UK were historically granted only to doctors and dentists. Following the publication of the second Crown report in 1999,[1] limited prescribing rights were granted to pharmacists, to make greater use of their knowledge, skills and expertise and improve patient care through safe use of medicines and access to treatment. This initial prescribing right was limited to dependent prescribing, also termed supplementary prescribing. In this case, dependent prescribers are 'responsible for the continuing care of patients who have been clinically assessed by an independent prescriber'. In contrast, an independent prescriber is 'responsible for the assessment of patients with undiagnosed conditions and for decisions about the clinical management required, including prescribing'.[1] In 2006

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full, independent prescribing rights were extended to pharmacists in England and 2007 in Wales,[2,3] allowing them to prescribe autonomously for conditions within their chosen scope of practice.[4] Internationally, non-medical prescribing had been implemented in a number of countries, albeit it varying within healthcare systems. This began in the United States and Canada before the UK, and has since expanded to New Zealand and Australia, amongst others.[5–8] Since its incorporation into the healthcare system, research has shown that pharmacist prescribers achieve comparable clinical outcomes for patients to doctors for a number of chronic conditions.[9–13]

For pharmacists to become independent prescribers they must undertake additional training accredited by the professional regulator.[4] Such courses require pharmacists to work 90 hours in a practice environment whilst mentored by a designated prescribing practitioner (DPP), responsible for overseeing the trainee's training and who confirms their competence.[4] Until recently, the DPP was required to be a medical practitioner such as a consultant, specialist registrar or General Practitioner (GP). In 2018/19 the UK pharmacy regulators agreed pharmacists and other non-medical prescribers (NMPs) could also act as DPPs,[4] to improve access to training opportunities, whilst recognising the valuable contribution some NMPs could make to training.

In Wales, NHS services are delivered by seven health boards (HBs), integrated organisations responsible for primary and secondary care, whilst some specialist services are provided by three National Health Service (NHS) trusts. The number of independent prescribing pharmacists (IPPs) in Wales has increased from 167 in 2016 to 483 in 2020, however, evidence suggests only 60% utilise their prescribing skills.[14] Literature from a previous study suggests the majority of IPPs in Wales initially practised within hospital in and out-patient settings.[15] With increasing demands on health services,[16] the Welsh Government (WG) recognised the contribution of pharmacist prescribers to improved patient outcomes[17,18] and described the need for IPPs to utilise their skills in primary care.[19,20] As well as improving patient-centred care in the community,[21] it was expected that this would also relieve pressure on GPs and provide a more appropriate use of financial resources.[22,23] WG and HBs have since begun focusing on prudent healthcare by funding education and training to increase non-medical prescribing in primary care.[20,24] The pharmacy profession in Wales has set a goal to ensure there is at least one qualified IPP in every community pharmacy across Wales by 2030.[25] Although this goal is ambitious, it supports and facilitates the expansion of the community pharmacists' role. Several barriers have been identified to IPPs implementing their role. These include lack of funding, increased workload, access to patient medical records, and patients' perceptions of pharmacists' clinical abilities.[26,27]

In Wales, HBs are responsible for commissioning NHS funded clinical services from community pharmacies and for ensuring they are relevant and appropriate for the needs of the population. In June 2020, a pilot Independent Prescribers' Service (IPS) was introduced in 13 pharmacies across six of Wales' seven HBs. The initial number of funded prescribing sessions varied across the HBs and ranged from a pre-specified 1–3 sessions per week, based upon a theoretical maximum of 9 consultations per session, to complete flexibility with no restrictions on number of sessions or consultations. Reimbursement for the issuing prescriptions was part of the primary care HB budget. The areas in which IPPs could prescribe were determined by their respective HBs, the scope of practice of the pharmacist and the needs of the local population: management of acute conditions, contraception, and opioid withdrawal.[28] Patients could be referred by general practitioner staff who had been informed by their local pharmacist, or self-refer if they were already aware that the pharmacy was providing the service. Patients could book an appointment for a consultation or walk-in and be seen if the IPP was available. Consultations for the IPS were supported by *Choose Pharmacy*, the national information technology (IT) platform used in 98% of community pharmacies in Wales, which provided "read" access to the patients' medical records through the Welsh GP Record (WGPR). Currently, there are two GP systems used in Wales. The WGPR display within *Choose Pharmacy* (Supplementary Figure 1) included all acute and repeat medication within the last 2 years for both GP systems (for one of these only, medicines prescribed over 2 years ago could be accessed in the "past" or "discontinued" list) and all blood tests that were undertaken in primary care. No free text was included in the WGPR display. All consultation outcomes were recorded using a standardised template within a patient's *Choose Pharmacy* record. A summary letter was shared with each patient's GP surgery/practice.[29] During the COVID-19 pandemic, pharmacies increasingly offered remote consultations by telephone, as well as consultations on site at the pharmacy, Support was provided to make video consultations available from pharmacies.[30]

Before the service could be expanded it was imperative stakeholder views were explored and recommendations for further development of the IPS agreed. The aim of this study was to explore the views of two key stakeholder groups: community pharmacy IPPs delivering the IPS and NHS commissioners regarding the pilot IPS in Wales.

Methods

In line with the updated framework for developing and evaluating complex interventions, as described by the Medical Research Council,[31] our research was divided into four phases: identifying the intervention to evaluate, assessing the feasibility and acceptability of evaluation design, completing the stage of evaluation that was suitable at that time and implementing findings in such a way as to maximise the intervention's impact; engaging and feeding back to key stakeholders was central to our approach. Within each phase, we considered the common core elements of the framework, where relevant to the service. This project aimed to explore the views of IPPs and HB service commissioners and as such, the most appropriate method was a qualitative approach.[32–34] It forms part of a wider evaluation that will also consider views of patients and medical prescribers, as well as analyse prescribing trends of pharmacists and further healthcare utilisation.

Semi-structured interviews were utilised for the study,[35] allowing for open and probing questions.[36] Feasibility and acceptability of this method was confirmed before the service's introduction by the Community Pharmacy Digital Applications (CPDA) Board, the group that oversees the development and implementation of IT systems to support the provision of community pharmacy services in Wales and has representation from all HBs and the Welsh Government.

Ethical approval was provided by Cardiff School of Pharmacy and Pharmaceutical Sciences Research Ethics Committee (reference 1920–22). Potential participants were fully informed of the study via a recruitment email, participant information sheet and consent form. Written, informed consent was required prior to interviewing, including consent for publication of anonymised quotes. Due to the COVID-19 pandemic, this was received digitally. Interviews took place between September and November 2021, within 3 months of the IPS commencing.

For IPPs, purposive sampling was employed to ensure the pharmacists had appropriate experience of the service: we wanted views on logistics and delivery of the service as well as the service itself.[37] As such, the inclusion criterion used for the study was that pharmacists were qualified IPPs and had conducted a minimum of one IPS consultation in one of the 13 commissioned sites across Wales. The exclusion criterion was pharmacists having received training as an IPP but not having conducted any IPS consultations up to the point of recruitment, despite participating in the pilot. Census sampling was employed to invite all commissioners in the six Health Boards with pharmacies participating in the pilot.

To aid recruitment, a member of the primary care team in Digital Health and Care Wales (DHCW, previously NHS Wales Informatics Service (NWIS)) acted as gatekeeper, to gain access to participating sites. NWIS originally developed and DHCW maintain the *Choose Pharmacy* platform; the gatekeeper from DHCW forwarded all study information to potential participants.

Data collection was carried out by three members of the research team. Interviews were arranged at a time and date convenient for the participants and all were conducted and audio recorded either using Microsoft Teams (MSTeams)[38] or by telephone call, based on the participant's preference. For those interviewed on MSTeams, participants were given the choice to have their video on or off. An interview schedule was utilised to guide the conversation.[36] Developed by a combination of targeted literature search and stakeholder input, including medical and non-medical prescribing practitioners from primary care and a key informant involved in commissioning community services in one HB. It focused on gaining views on pharmacists' prescribing in general, the IPS specifically (including any operational considerations), and *Choose Pharmacy*, the IT platform supporting the service.

The three members of the research team conducting the interviews were all pharmacists. To minimise any risk of bias in the data analysis, a different member of the research team transcribed and coded the interviews and conducted initial analyses. The transcribed interviews were quality assured, with any identifiable information removed to ensure anonymity,[39] and inductive thematic analysis was used to construct themes.[40] Findings were disseminated to a range of stakeholders, for maximum impact: the CPDA Board, the Independent Prescribing Clinical Reference Group (national clinical group that supports developments in prescribing) and the Welsh Government.

The SRQR checklist for qualitative studies was utilised to guide the reporting of this study and is included as Supplementary Table 1.

Results

Thirteen interviews were conducted (IPPs n=9; HB commissioners n=4), involving participants from all six HBs where the IPS was being piloted. Interviews lasted between 33 and 79 minutes, with an average time of 50 minutes. The IPPs had varied prescribing experiences with some only having started prescribing six months before they started providing the IPS, to more than 10 years. Figure 1 summarises the five main themes that were constructed from the analysis. Where quotes are utilised to illustrate a theme a code of "IPP" or "C" is used to denote if the participant was an IPP or HB commissioner, with their respective participant number.

Theme 1: Patient Experience and Safety

The impact on patient experience was discussed by all study participants, IPPs and commissioners. The service was considered convenient for patients and to provide increased access to health advice and support. Within the community pharmacy, patients did not experience long waits and could just "turn up" or, if an appointment was necessary, promptly speak to and be treated by an IPP. Increased flexibility was considered by all a major benefit of the service, with patients being seen outside of work hours, early or late, same day, or at weekends. In addition, pharmacists continued offering face-to-face appointments throughout the COVID-19 pandemic, which supported patients who were unable to use video-consulting.

> A lot of people got issues they do need to speak to someone they [patients] don't like speaking to a GP over the phone and you know having these video consultations they're not happy about that, especially somebody elderly, a lot of things are getting missed. we've got top respirators and we've carried on seeing people face to face (IPP1)

High levels of patient satisfaction with the IPS were reported as the service was settling in, with IPPs reporting patients had started contacting the pharmacy for a consultation before their GP surgery, because patients found the pharmacy more convenient. IPPs and commissioners reported that patients felt they were receiving a lot of information and advice from the IPPs when presenting with an uncomplicated acute minor ailment, compared to a GP, as appointments were not time limited. Further evidence for improved patient experience was provided by one commissioner, who had collected feedback on patients' views of the IPS in which the results were overwhelmingly positive.

> I think it [patient feedback] was 95% excellent, you know, something like that across the board, it was ridiculous. (C1)

All participants stated another major benefit of the service was its positive impact on patient safety, and that having access to patient records via *Choose Pharmacy* was invaluable. Initial technical difficulties that ended up in inconsistent access were quickly addressed, as a result, patients' medical history was reviewed and informed appropriate clinical decisions.

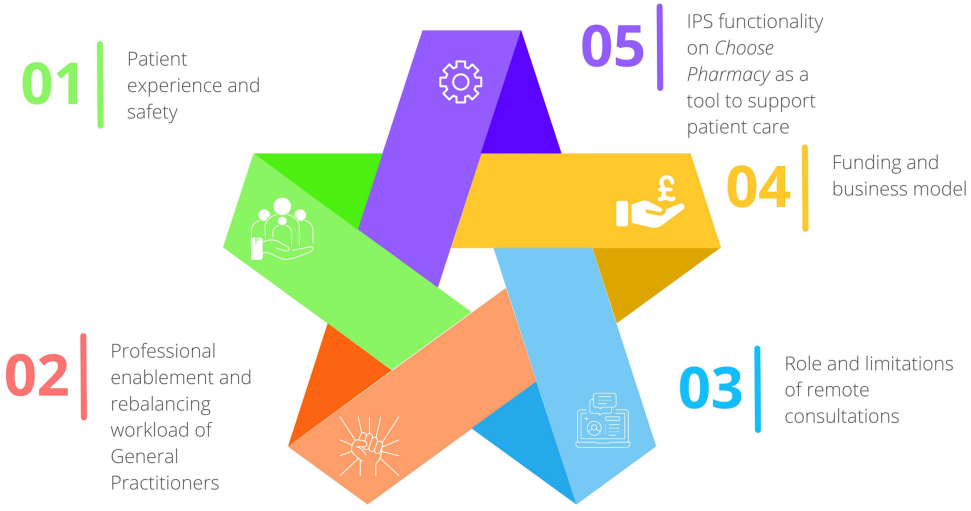

Figure 1 An overview of the themes that were constructed from the transcribed interviews.

> …Being able to access the record made a huge difference um because it was one of my concerns previously that, common ailments is a bit sort of shooting in the dark really you try and get a history from a patient and it is always a little sketchy. (IPP8)

Patient notes were utilised not only to make autonomous clinical decisions on managing a condition or providing contraception, but also to provide safety netting to patients after they had attended remote appointments with GPs and presented to the pharmacy to collect their medication. Examples were provided by IPPs of cases where a prescription had been authorised for a patient after a telephone consultation with a GP, and when patients visited the pharmacy to collect the medication, the IPP revised the diagnosis and proceeded with different management options.

> [A patient] had been given flucloxacillin for cellulitis which over the phone, [of] course he came in and he had, his leg was entirely swollen above his knee right from the bottom right up, and like he already lost one toe before, diabetic as well, and I'm thinking so anyway you know I had to get him in …. he was admitted [to hospital] (IPP2)

Access to patient medical records enabled emergency treatment of patients who presented in the pharmacy outside normal GP surgery opening hours, such as late evenings or weekends, or from non-local GP surgeries. In both cases it would be very difficult for a pharmacist prescriber to review patients' medical history, and IPPs gave many examples of how, before the service and without access to WGPR, they were not comfortable prescribing "in the dark" in cases where high risk medicines were involved, meaning patients were signposted to out-of-hours services.

In order to realise the benefits of IPS, IPPs and commissioners highlighted it was important for patients to understand the services IPPs can provide and what to expect from them. It was noted many patients were not aware of the prescribing role of some pharmacists and continued to contact the GP surgery before seeking advice from them. Many IPPs stated patients were surprised when they were informed that pharmacists could prescribe medicines for certain conditions, and after spending time discussing pharmacy initial and further education for obtaining a prescribing qualification with the patients, patients were comfortable to no longer contact their GP surgery and to contact the pharmacist instead for future consultations. It was strongly believed that strategies for disseminating pharmacist roles and services need to be developed, beyond current advertising on social media platforms, which may be effective for targeting younger people, but may be less appropriate for older people who potentially use the services more.

> …You explain your background of why you're able to prescribe so the four-year degree [length of undergraduate pharmacy course in the UK], the pre-registration that going back to University, the working in the GP clinics, and it really elevates the public's view on pharmacists… (IPP5)

Theme 2: Professional Enablement and Rebalancing Workload of General Practitioners

The majority of IPPs interviewed recognised their prescribing training as a key step in their career and expressed that the ability to prescribe via the commissioned IPS has increased their professional job satisfaction by being able to prescribe to patients who, prior to the service, would have been referred to their GP. The service provided a framework in which IPPs were able to utilise their knowledge and skills in a community pharmacy to treat patients appropriately.

> …3–4 years ago I would have asked what's the point in me doing IP in community pharmacy… I saw a number of colleagues doing the qualification and then moving into GP practices because they were frustrated with not being able to use it in community pharmacy…this [IPS] is really making it [prescribing] an achievable goal for us in community pharmacy. (IPP5)

Participants made use of a range of strategies to ensure they continued to develop professionally and to feel comfortable dealing with uncertainty, with ongoing support mechanisms for their prescribing role. Examples of some of these strategies different IPPs used were engaging with their DPPs when they wanted to confirm an unusual diagnosis, making use of social media such as a WhatsApp group to get support from peers, sharing best practice with peers in weekly debrief sessions, and seeking feedback from practice managers on referrals and patient outcomes.

IPPs successfully managed patients with addiction, uncomplicated acute conditions and provided contraception. As such, participants believed that the service had shifted management of these patients away from General Practice,

relieving pressure and enabling GPs to treat more complex cases and undertake more patient home visits. This was evidenced by a commissioner who had received ad hoc feedback from local surgeries.

> …For the first time in years he [GP] was able to do home visits to palliative patients purely because the demand upon his afternoon surgery had changed because this new accessibility… (C1)

However, frustration was expressed by some participants (IPPs and commissioners) who perceived IPPs were seen by other healthcare professionals and by non-pharmacist commissioners and health directors as "cheap GPs" and that IPS was considered an inexpensive way of delivering services. They believed that the IPS served as an opportunity to change the status quo and make a sustainable change to patients' health-seeking behaviors, and other stakeholders' attitudes towards pharmacists providing advanced services within their own rights and not as substitute GPs.

All IPPs reported that a critical factor for the successful implementation and further roll-out of the service, and any change to patients' health-seeking behaviors, was a collaborative working relationship with local GPs, as one of the main ways for bringing the service to patients' attention was referral from reception staff, with one IPP detailing their efforts to cultivate that relationship.

A further facilitator to this was expressed by some participants when one of the GPs had acted as DPP during the pharmacist's prescribing course, and hence had a good understanding of, and trust in, their scope of practice.

> …What I'm seeing with clinics who're very successful they [patients] are largely being pushed into the service by the local GP they did their training in and because that confidence is there. (IPP5)

In contrast, where relationships with local GPs was less well established prior to implementation of the service, examples were provided where surgery staff refused even to liaise with the IPP so that they could explain the service. As a result, many patients who sought appointments with a GP for a condition or request that could have been dealt with by the IPP, were not provided with the option of visiting the pharmacy, or in some cases, were referred inappropriately, outside the service's specification.

Theme 3: Role and Limitations of Remote Consultations

At the time of data collection, no IPPs had used the video consultation software that had been made available to them. Two of the pharmacists participating in the IPS pilot only offered face to face consultations, another two only offered remote consultations (by telephone) and five offered a mixture of remote and face-to-face consultations. Examples were provided by IPPs of consultations where they felt comfortable not seeing a patient in person, such as when dealing with acute urinary tract infections. In contrast, there were areas where patient safety was a major concern with a remote consultation, and examples were discussed of challenges such as language barriers or body language cues that could be missed.

One IPP described how they believed that consultations were more than verbal interactions and they could tell a lot from observing a patient. Another IPP reiterated this and provided an example where the patient understated the severity of their symptoms on the telephone and only when they presented at the pharmacy to collect their medication did the pharmacist see how unwell the patient was. The pharmacist decided at that point to refer the patient to an Emergency Department where they were later admitted to hospital. Another participant found patients struggled to understand them on the telephone and that overall patients seemed to take in more information when attending face-to-face.

> …They didn't really understand what I was trying to get at whereas at least face to face they can kind of understand a little bit better. (IPP4)

One area of major concern in relation to remote consultations raised by prescribers in the area of contraception, was safeguarding. They specifically discussed how safeguarding issues related to contraception prescribing can be missed as remote consultations may make it more challenging to check the patient's age and to explore possible coercion or abuse.

> …It was quite daunting 'cause [sic] obviously you haven't got the patient in front of you, you're just really going on what they say so you can't kind of see the patient factors so do they look upset… (IPP4)

Despite concerns about remote consultations, a number of useful features were highlighted. IPPs expressed that some patients were more willing and comfortable giving personal information over the telephone, which meant that

more in-depth information was able to be shared and a better consultation outcome achieved. Additionally, by implementing remote consultations, the pharmacist had become even more accessible and this was perceived as a huge advantage, for example, for housebound patients or working people. It provided patients with the opportunity to speak to a health care professional from the comfort of their home or during their lunch break at their workplace.

> [A patient is asking] 'I work 9 'til 6, five days a week, when do I see a doctor? If at some point during the day I could log on and have a video consultation?' you know, it would completely change the dynamic of the way people access healthcare. (IPP7)

The consensus among most participants, pharmacists and commissioners, was that remote consultations have a place in pharmacy practice post COVID-19 as they have been popular with patients. Indeed, a blended model was perceived as beneficial occasionally but limited to certain consultation types.

> …Opens the door to people who struggle to be able to come down to the GP due to work um that you're able to do it [consultation] in half an hour, so I can see it from a patient perspective and so I would be more than happy to have a first consultation over video and if I feel I need to see someone, I'd be very comfortable asking them to come in. (IPP5)

IPPs discussed specific training they felt was essential if they were to provide more remote consultations, such as the *Telephone Triage* course, organised by their HB. Of the IPPs that completed the course, they thought that this training element was excellent preparation and would recommend it to others.

Theme 4: Funding and Business Model

The service model provided for a set number of funded sessions per week in some Health Boards, however, this was not always adhered to by IPPs. Depending on the type of the request, for example acute conditions versus management of addiction, many IPPs saw patients outside the pre-set sessions, even without financial reimbursement. These participants believed that if they refused appointments patients' engagement with the service could significantly decrease, patients would stop considering them as the first point of contact, and eventually GPs would stop referring patients to the service.

In addition, IPPs discussed the need for changes to workflow towards setting a number of pre-booked appointments for consultations. Many adopted a "hybrid model" where they were able to offer consultations for walk-in patients and for patients who wanted to book ahead with an appointment. These participants believed that the hybrid approach needed to be adopted formally going forward, as patients may need to be seen for an acute condition without delay with the option for a walk-in appointment needing to be maintained. At the same time, some degree of pre-scheduling would support pharmacists with planning their other work. Prescribing was seen as a service that could not be completed whilst "multi-tasking" so workflow needed to be managed carefully to allow pharmacists to give their full attention to the service whilst maintaining patient safety. The right balance was perceived as essential, so that a sustainable model is achieved, that will not negate all the beneficial flexibility of the service.

> …People don't choose when they're unwell, people don't choose when they've got free time really and I think that if any of these services are to work you need to be able to have them going all the time, so as many people as possible can access the services. (IPP7)

All pharmacist participants reflected that for IPS to expand, and more generally for community pharmacists to continue expanding their role and delivering clinical services, more needed to be done. It was perceived as crucial to upskill technicians and to empower the wider pharmacy team to support other tasks, such as dispensing and completing final checks on prescriptions. Some IPPs discussed the possibility of a second pharmacist as part of the team, which would enable the safe running of the pharmacy where the former could spend time on the IPS but also serve as a development opportunity for the latter.

> …So I think it's kind of like a domino effect so we're taking GPs' work, then ACTs [Accredited Checking Technician] will take pharmacists' work, techs [technicians] will then take ACTs' work…. I think everybody needs to be in play, not just pharmacists (IPP4)

> A two-pharmacist model gives a better chance for that [managing more walk-in consultations in addition to pre-booked ones] but you have to have a pharmacy with quite a substantial turnover, the infrastructure for it, you know, a robot, and ACT [accredited checking technician) and a second pharmacist (IPP8)

The solutions for empowering pharmacists to engage with IPS and more clinical services (upskilling existing team to perform additional duties and adding a second pharmacist), as well as the fact that some pharmacists exceed their quota of consultations per week but continue to see patients, reinforced the perception that more funding needed to be allocated to the service. From their point of view, commissioners discussed the challenges of balancing the budget and accommodating the individual needs of the pharmacies whilst also maintaining equity in provision of services across their respective HBs. Potential solutions were suggested, such as utilising existing workforce development funds to offset training costs for pharmacy staff.

Theme 5: IPS Functionality on *Choose Pharmacy* as a Tool to Support Patient Care

Access to WGPR was unanimously agreed as the most important functionality of the system. Other areas that facilitated consultations, or were perceived as limitations of the system, were mentioned. The main limitation was considered as the limited ability to access test results or letters from secondary care, that are normally appended to WGPR rather than entered as text, and the access to only recent patient records, ie, within the last two years. For some consultations these limitations were not considered critical, but for some others, this limited depth of information was considered desirable by IPPs to have confidence in their decision making Some participants also expressed the need to move beyond "read only" access to patient records to "read/write" access, and this was viewed as necessary to push the profession forward and properly integrate pharmacists in the multi-professional team. However, it was noted that with more information and more rights, comes more responsibility, and it was acknowledged that this may be perceived as intimidating for some pharmacists.

> …*Choose Pharmacy* is a fantastic place to store the information but it's not a huge clinical support like the GP systems are…the GP systems will tell you 'have you checked the renal function' for example if you're prescribing a nitrofurantoin and they will tell you if there's an interaction if they are penicillin allergic and you try to [prescribe] penicillin it will override it for you (IPP5)

Pharmacists completing consultations for acute conditions or opioid dependence found the semi-structured way of capturing and recording information about the consultations, based on the system's generic template, very helpful. This view was not shared by pharmacists prescribing in the area of contraception, who had been using a very structured and detailed paper template, prior to IPS. These IPPs suggested that a different template could be added to the system, or the ability for pharmacists to add different sections to the existing ones. Other suggestions for improvement included electronic transfer of consultation outcomes to the GP records, option to save progress and return to consultation at a later point in time, ability to recall standard safety netting wording for certain types of consultations and lifting the maximum character limit for entering text in the template.

Discussion

This is the first study internationally that utilised data obtained from two of the key stakeholder groups involved in service development and delivery; pharmacists delivering an independent prescribing service in the community pharmacy as well as service commissioners. Responsibility for health services is devolved to governments in each nation of the UK, and only two of the nations have nationally commissioned community pharmacy prescribing services, Wales and Scotland.[41] Whereas the service in Scotland is limited to management of acute conditions, IPS has a wider remit; as such, evaluating stakeholders' views is crucial to this and future services' development. Our analysis revealed high levels of satisfaction and positive attitude towards the service as a whole from pharmacists and commissioners and suggests that IPS has made a positive contribution towards professional satisfaction, patient safety, convenience and accessibility. Community pharmacists have been able to become independent prescribers in the UK since 2006, but it is only more recently that nationally commissioned services and IT infrastructure have provided the necessary support for their effective integration within the wider health service. IPPs' contribution has progressed significantly, with more than 16,000 consultations recorded in Wales since 2016, with more than 9000 conducted as part of the IPS launched in June 2020.[42]

Patient safety was believed to be significantly enhanced by pharmacists' access to medical records, provided through *Choose Pharmacy*, supporting them to make better clinical decisions and giving them more confidence in a prescribing consultation. Specific suggestions for improvement to the technology were also provided, that have already been fed back to the developer team and actioned; as an example, the *Choose Pharmacy* summary of the consultation will no longer just be

provided as a hard copy to the patient, but also sent electronically to the patient's GP, effectively paving the way for "write" as well as the existing "read" access to patient medical records. The "read" access to patient clinical information provided through the original pathfinder service is addressing concerns previously reported in the literature, as potential to compromise patient care. Jebara et al,[43] explored IPPs' views of access to patient clinical information, and Zhou et al,[10] reported that the lack of access to patients' clinical data was a concern to patients and the public. In 2021, the International Pharmaceutical Federation conducted a global survey and reported[44] that in 45 of the 79 countries that they had data for (response rate 67%), community pharmacists were not able to access patient health records.[41] Even in countries where access was an option, the level of access varied between regions, with only one country where community pharmacists had "read" access to the whole of a patient's record. Pharmacist access to patient records was also a key recommendation made by the Royal Pharmaceutical Society (RPS) in April 2021 as part of its policy to maximise the skills of pharmacist independent prescribers and to integrate them more efficiently in the multidisciplinary care of patients.[45]

Effective integration of pharmacists in the multidisciplinary healthcare team was frequently discussed by the participants as integral to better patient safety outcomes, with one IPP describing how they made a conscious effort to improve relationships with their local GP practice, to explain to the reception staff the services that were on offer at the pharmacy so that they could subsequently refer any eligible patients. The impact of developing a strong inter-professional relationship on successful pharmacy independent prescribing services was also reported by Hindi et al,[46] and Bradley, Ashcroft, and Crossley,[47] who found where interactions between community pharmacists and GPs were limited, building such a relationship was challenging. This was echoed in our study, with one commissioner perceiving that for the few IPPs who had not managed to develop their relationship with their local GP surgery/practice, this could be attributed to the latter being unfamiliar with the concept of IPPs in general and/or their prescribing abilities. The significant challenge in implementing political, economic, social, and practice change by all stakeholders in order to successfully integrate community pharmacists in the healthcare team at international level has recently been described by Piquer-Martinez et al,[48] who concluded that further research is needed to reach a consensus-based model for this.

Unfamiliarity with services provided by community pharmacists has been extensively reported in the literature, not only amongst other healthcare professionals but also members of the public.[46,49–51] Use of clinical services after either referral by another professional or opportunistically in the pharmacy has been associated with patient behaviour change towards subsequent health-seeking advice from the pharmacy.[52] In our study, IPPs also reported that patients accessing the IPS were already changing their health-seeking behaviour by contacting the pharmacy before their GP surgery, when they needed medical advice and support. Previous research has found patients' perceptions of IPPs are positive, with 93% of patients interviewed saying they were highly satisfied with IPPs and preferred seeing a pharmacist compared to other HCPs.[53] Reasons for this have been explored by Stewart et al[54] and Mann et al,[55] who reported that quick access and an increased consultation duration with a pharmacist was preferred by patients. This was reflected in our findings, with IPPs discussing how patients had expressed their satisfaction with the service due to its accessibility, flexibility, and a perceived more thorough consultation, when compared to an appointment with their GP. One commissioner reinforced this by sharing results of locally collected patient satisfaction data.

Satisfaction was also reported to be high among GP surgery staff that had engaged with the service, with IPPs receiving feedback that GPs were appreciative of the workload that IPPs had taken off them. This included patients accessing pharmacies before contacting their GP surgery/practice, or from GP staff referring to the pharmacy patients who contacted them requesting an appointment. GPs' positive opinions of their reduced workload due to pharmacist prescribers has also been reported by Hill et al.[53]

Although GPs appreciated the rebalanced workload due to shift of management of conditions covered by the scheme, pharmacists' workload substantially increased. This was not perceived as an impasse; indeed it was offset by the increased job satisfaction that arose from IPPs becoming more clinically involved with patients, in line with research by Butterworth et al[56] where it was reported that IPPs in primary care had higher job satisfaction when meaningful patient contact increased. A range of strategies were being adopted by different IPPs to meet the needs of this increase in workload: employing a second pharmacist or accuracy checking technicians; or upskilling current staff. The need to upskill technicians to take on aspects of the more "traditional" pharmacist roles has been recognised by NHS England and Wales,[57] who have invested in education and training of all pharmacy professionals to reflect the requirements for

a more flexible and dynamic workforce. These efforts have already been fruitful and in Wales, technicians can now deliver discharge medicine reviews in community.[58] Efforts to upskill pharmacy technicians are international: a recent paper by McKeirnan et al[59] described how a new Workforce Development Hub Pharmacy Technicians & Support Workforce Strategic Platform was established by the International Pharmaceutical Federation, to provide a clear vision for the role of the pharmacy support workforce in the expanding scope of pharmacy practice in low and middle-income countries.

Several respondents provided insights into how the design of the IPS and the broader approach to supporting a new strategic direction for community pharmacy influenced the service's impact. The design of the service allowed pharmacists to determine how best to deliver the IPS, maximising access for patients and promoting a sense of professional value amongst pharmacists. This, alongside access to medical records and upskilling of the wider pharmacy team allowed many prescribers to offer levels of service over and above those envisaged by commissioners with significant impacts on local health services. The Welsh Government's commitment to maximise pharmacists' skills for improved patient outcomes, as reflected in the long-term plan for the future of pharmacy in Wales 'Pharmacy: Delivering a healthier Wales,[25] has been reaffirmed with the introduction of the new pharmacy contract in April 2022.[60,61] Part of the strategic plan is to ensure patients can access an independent prescriber in every community pharmacy in Wales by 2030; by sharing results and maximising the impact of this evaluation, findings have fed into shaping the way services will be delivered.

It is of note that many of the findings in this study are common to other groups of non-medical prescribers and have been previously discussed in the literature.[62,63] This applies to findings related to enablers and impact of non-medical prescribing on professional satisfaction and patient care, but also of barriers. Many of the organisational and professional factors described in this study can act as barriers or facilitators, depending on circumstances, such as prior relationships with GP surgeries or access to patient records; again, this is in line with what has been reported elsewhere.

All pharmacist participants in this study were experienced in their role before undertaking their prescribing training. It can be argued that the value-based approach to delivering IPS that was evidenced through the interviews, with pharmacists putting patients at the centre of care, recognising their professional competency and boundaries, showing good communication, and leadership when relationships with other stakeholders needed to be cultivated,[64,65] is down to this prior experience. They will have accepted and prepared for the increased responsibilities needed.[66] Forsyth et al[67] argue that internationally the ethos of education needs a shift towards integrating all four pillars of professional practice: "scholar" (educationalist), "scientist" (researcher), "practitioner" (clinician), and "professional" (leader). This will align with the professional ethos of a new "Collaborative Care Model", whereby all pharmacists practise collaboratively and dynamically towards meeting the ever-evolving population needs. In the UK this shift is underpinned by new UK-wide standards from the pharmacy regulator for education and training[4] at pre-registration level, supplemented by post-registration professional development curricula for three career stages, published by the UK professional body.[68–70]

Limitations

In line with principles of qualitative research, the results are not intended to be transferrable to all the IPPs in Wales, nor the entirety of IPPs in the UK or internationally, who may hold different views to the ones expressed by the participants in this study. The low number of participants and the focus on pharmacy stakeholders is a limitation of this study. Nevertheless, the study included a high proportion of pharmacists and commissioners in four of six HBs where sites participated in the pilot were based (9 of 13 commissioned sites). This led to rich data being obtained from the interviews.

Conclusion

This study builds on the body of evidence on enhanced patient experience with prescribing services in the community. Our findings support the view that IPPs have a key role in supporting patient outcomes by rebalancing management of common conditions from GP surgeries to community pharmacies. We found that several considerations need to be addressed to ensure future success of the service implementation, delivery and enhanced sustainability, such as formal referral pathways, upskilling workforce, access to medical records, and negotiating a funding model with commissioners. These can be used by other commissioning bodies in the UK and internationally to build a network of suitably supported IPPs, confident to appropriately deal with uncomplicated acute and chronic conditions; and liaise with primary and/or secondary care when referrals are needed.

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Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

Disclosure

The authors declare no conflicts of interest.

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