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The role of community pharmacy in the promotion of continence care: A systematic review

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ABSTRACT

Objectives: Community pharmacies are convenient healthcare settings which provide a wide range of services in addition to medicine supply. Continence care is an area where there is an opportunity for the implementation of new innovations to improve clinical and service outcomes. The objective was to systematically evaluate evidence for the effectiveness, safety, acceptability and key determinants of interventions for the promotion and implementation of continence care in the community pharmacy setting.

Methods: The protocol was registered in the International Prospective Register of Systematic Reviews database (PROSPERO: CRD42022322558). The databases Medline, Embase, PsycINFO and CINAHL were searched and supplemented by grey literature searches, according to the Preferred Reporting Items for Systematic Reviews and Meta-analyses checklist. In total, 338 titles and abstracts were screened, 20 studies underwent full-text screening and four studies met the inclusion criteria and underwent quality assessment. The results are reported narratively due to the heterogeneity of study designs.

Results: There was some evidence for the effectiveness of interventions, resulting in increased provision of consumer self-help advice and materials, referrals to other care providers, and an increase in staff knowledge and confidence in continence care. Evidence was inconclusive for clinical outcomes due to small sample sizes and poor follow-up rates. Acceptability of interventions to both pharmacy staff and consumers was generally positive with some frustrations with reimbursement procedures and time constraints. Facilitators of a successful pharmacy-based continence service are likely to include staff training, high-quality self-care resources, increased public awareness, and the establishment of effective referral pathways and appropriate reimbursement (of service providers).

Conclusions: There is a paucity of evidence regarding the contribution of the community pharmacy sector to continence care. The development of a new pharmacy bladder and bowel service should involve patients, healthcare professionals and policy stakeholders to address the potential barriers and build upon the facilitators identified by this review.

Patient summary: We identified research that had explored how community pharmacy (chemist) personnel might support people with continence problems (e.g. bladder and bowel leakage). Only four studies were identified, however, they reported that training for pharmacy personnel and providing self-help advice about continence can be successful and was well-received by patients.

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1. Introduction

Over 14 million adults in the UK experience bladder control problems, and a further 6.5 million have bowel control difficulties.¹ Urinary and faecal incontinence cost the United Kingdom National Health Service (NHS) over £700 million annually including catheter care, unplanned hospital admissions, and containment products.^{1,2} Globally, there is a substantial economic burden to our society.³ Living with incontinence, especially when poorly managed, can have substantial emotional, psychological and physical consequences for quality of life.⁴ People with incontinence can experience embarrassment, anxiety and depression, become more socially isolated, have reduced self-esteem, and experience sexual dysfunction.^{1,5,6} The lack of general public awareness of the condition, its treatment, and accessibility to services mean that incorrect assumptions prevail, such as the condition being inevitable as we age or following childbirth, and that improvement or cure is unlikely.^{7,8} This is despite the availability of effective, conservative evidence-based treatment strategies, that include lifestyle advice and pelvic floor muscle training.^{7,9–11} If the condition is identified and well-managed, individuals can be empowered to take control of their symptoms, employ self-help strategies and prevent long-term deterioration.^{1,12} Whilst absorbent products might ‘manage’ symptoms there is a need to address the underlying cause, and as such, prevention and education are key areas for innovation to enable more people to be treated effectively.^{1,7}

Community pharmacies are seen as socially inclusive and accessible healthcare services, and have trained staff with whom the public have confidence in approaching for information on medicines and health conditions.^{13,14} Community pharmacy personnel are well-placed to engage with customers and/or informal carers, and to offer an opportunity to provide education, treatment and self-help strategies, along with signposting to more specialised services where required.^{13–16} There are around 11,500 community pharmacies (chemist shops) in England,¹⁷ and 90 % of the population lives within 20 min’ walk of one of these healthcare settings, increasing to 99 % for those in highest deprivation.^{18,19} No appointment is necessary and premises are required to have private consultation rooms, when possible.¹⁹ Community pharmacies deliver services as part of their UK NHS contract, similar to other providers such as general medical practices. There are essential services that all pharmacies are contractually obliged to provide, such as the dispensing of medicines and medicinal products, advising patients on self-care and medication review/support following a hospital discharge (20). Other more specialised services are optional and can be provided on a national or local level (advanced or enhanced service) (20).

The key requirements for people with bladder and bowel incontinence are information and advice.²¹ Community pharmacies could be an ideal setting to provide this advice, and are perceived to be under-utilised in the identification of individuals with continence problems who might not present elsewhere.¹³ A specialised bladder and bowel service that is implemented from community pharmacies has the potential to increase capability and capacity within the health system to identify and manage incontinence,^{13,16,22} potentially reducing pressure bladder and bowel services, and other care providers. A pharmacy-based service could also provide access to existing continence care pathways through appropriate referrals, as well as advice regarding the choice of continence products and symptoms of incontinence that might be medicine-related side-effects.^{22–24} For both bladder and bowel incontinence, conservative strategies for the promotion of continence are similar regardless of the cause, and this is the level of intervention that would be expected in a community, non-specialist setting.

PRIME (Pharmacy Role in the Promotion of Continence) is a National Institute for Health Research (NIHR) funded study (Ref: NIHR202212) that aims to develop a community pharmacy bladder and bowel service (PBBS) to support patients with urinary and/or faecal incontinence (Principal Investigator: Cotterill). The specific objectives to this systematic review were to:

1. Explore the effectiveness and safety of continence interventions in the community pharmacy setting.
2. Explore the acceptability and experience of continence interventions in the community pharmacy setting to patients, carers, and health professionals.
3. Identify the key determinants (barriers and facilitators) to the promotion and implementation of continence care in the community pharmacy setting.

2. Methods

The protocol was registered in the international Prospective Register of Systematic Reviews database (PROSPERO: CRD42022322558). This systematic review was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA 2020) checklist²⁵ (Supplementary Table 1).

2.1. Search strategy

A comprehensive search strategy was developed with support from a librarian using Medical Subject Headings (MeSH) and free text terms relating to continence and community pharmacy (Supplementary file 2). Electronic databases Medline, Embase, PsycINFO and CINAHL were searched from inception to July 28, 2022. The grey literature was searched and web-based sources including the National Institute for Health and Care Excellence, National Pharmacy Association, British Oncology Pharmacy Association; Primary Care Pharmacy Network; Royal College of General Practitioners; Pharmaceutical Services Negotiating Committee and EthOS. Reference lists and citations of included studies were also searched for relevant articles.

Two reviewers (AU and SD) independently screened all titles and abstracts and full-text to assess if they met the eligibility criteria for inclusion. Discrepancies were resolved through discussion with a third reviewer (MW).

2.2. Inclusion criteria

Studies had to meet the following criteria for inclusion:

Population: Adults (aged ≥ 18 years) with urinary (including over-active bladder, stress urinary incontinence, urge urinary incontinence) and/or faecal incontinence living in the community. Carers of people with incontinence; community-based healthcare professionals involved in the delivery of the interventions; policy makers and pharmacy staff stakeholders were included.

Studies were excluded if they involved children or patients with complex needs where their incontinence was caused by neurological conditions, brain/spinal injuries, anatomical deficits (fistula).

Intervention:

Continence interventions of relevance included:

- Promotion: health promotion and education
- Prevention: education, guidance on self-help and signposting to specialist services
- Treatment: bladder training, bladder control strategies, pelvic-floor muscle training, fluid and dietary management

These interventions could be pharmacologic and nonpharmacologic, including but not limited to, education, guidance on self-help, bladder training, bladder control strategies, pelvic-floor muscle training, fluid management, health promotion, and signposting to specialist services where required.

Comparator: Where applicable, any other intervention or non-exposed control group, or provider.

Study design: Empirical studies (qualitative and/or quantitative) were eligible for inclusion.

Setting: Studies in the community pharmacy setting were included.

Studies were excluded if conducted in non community-based settings or hospital settings.

There were no language restrictions, provided an English language abstract was available for initial screening. Conference abstracts, editorials/opinion pieces and systematic reviews were excluded. The reference lists of relevant systematic reviews were searched for eligible studies.

2.3. Outcome measures

The main outcomes were the effectiveness and acceptability of the continence intervention. These could include clinical (primary) outcomes, such as incontinence symptoms (e.g. using the International Consultation on Incontinence Questionnaire²⁶), quality of life, urinary tract infection or other outcomes such as cost-effectiveness, consumer or staff confidence/knowledge.

2.4. Data extraction and data synthesis

Data extraction and quality appraisal was performed by one reviewer (AU) and checked by second reviewer (SD). Discrepancies were resolved through discussion with a third reviewer (MW). Due to the heterogeneity of the methods, populations and interventions used, the data were synthesised using a narrative approach.²⁷ For each included study, a data extraction form was completed to summarize the study characteristics, nature and strength of findings, and conclusions. The views and experiences of the service by patients, carers and health professionals were also extracted particularly in relation to perceived key determinants of success (facilitators/barriers of service use/delivery). This enabled the data to be reported systematically to address the review questions and highlight similarities or differences across the included

studies.

2.5. Assessment of methodological quality

The Mixed Methods Appraisal Tool²⁸ was used for the quality assessment of included studies.

3. Results

The database searches yielded 357 records and after deduplication, 338 titles and abstracts were screened using Rayyan (Fig. 1). Twenty papers were retrieved for full-text screening, of which 17 were excluded. An additional unpublished study was identified which fulfilled the inclusion criteria. The four included studies were conducted in Australia,²⁹ Canada (n = 2)^{13,30} and the Netherlands.³¹ The study characteristics are summarised in Table 1. The included studies used a range of designs including focus groups,³¹ mixed methods,²⁹ a pilot randomized controlled trial (RCT)³⁰ and a case-finding.¹³ The mixed-methods study from Australia²⁹ was published as a report rather than a scientific paper, and the pilot RCT from Canada³⁰ was obtained as a pre-publication manuscript from the authors.

3.1. Quality assessment

The methodological quality of the focus group study³¹ and pilot RCT³⁰ was high. The case-finding¹³ and mixed methods studies²⁹ were of moderate quality. The assessment of the studies using MMAT²⁸ is provided in Table 2.

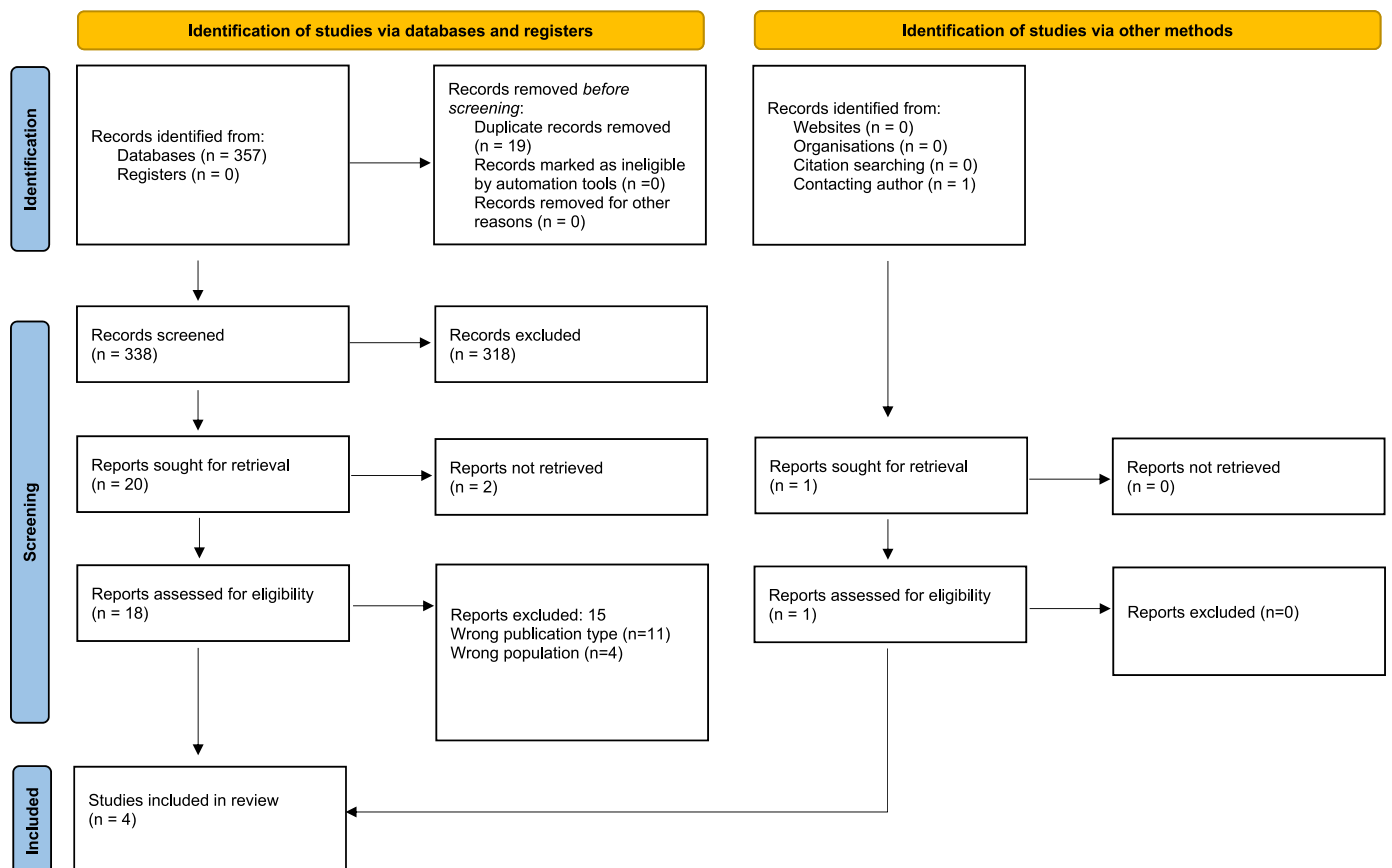


Fig. 1. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flow diagram.

Table 1
Characteristics of included studies identified by systematic literature review (n = 4).

Study and country	Design	Intervention type	Participants	Evaluation strategy	Outcome Measures
Duong 2023, ^{30,46} Canada	Pilot randomised controlled trial.	Tailored recommendations for LUTS based on previously published guidelines, ²³ including lifestyle recommendations (e.g. fluid intake, scheduled toileting), medication review and educational materials.	Pharmacy users that had bladder problems, incontinence, or were using pads and were ≥60 years old. Control (n = 8), intervention (n = 8) and two lost to follow-up.	Follow-up at 3 and 6 weeks using administration of B-SAQ, PPBC and ICIQ-UI-SF. Control had usual care with questionnaires and follow-up at 6 weeks.	Change in scores in the questionnaires between intervention and control group. Time spent on the intervention, billing and patient acceptance.
Schreuder 2021, ⁵¹ Netherlands	Focus groups.	The Dutch health care system has provisions to reimburse costs for prescribed continence products based on the amount of urine leakage. A new framework that was designed by the Dutch Ministry of Health was explored that tailors the type and amount of continence products given to patients by pharmacists, based on considerations of an individual's needs.	Pharmacy staff (n = 15). 1st focus group had eleven participants from 5 pharmacies (3 pharmacists, 7 pharmacists' assistants, and 1 continence nurse). The 2nd focus group included 4 pharmacists' assistants from 3 pharmacies.	Exploration of pharmacy staff knowledge, experiences and beliefs using thematic content analysis.	Acceptability, barriers/facilitators of the new framework for continence care.
Duong 2019, ¹³ Canada	Cross-sectional prospective, case-finding study.	A single administration of a survey and provision of self-care information resources.	Pharmacy patients (n = 190) > 65 years, presenting at 25 different pharmacies for routine care.	Administration of the Elderly Fall screening test, B-SAQ and ICIQ UI -SF.	Prevalence of urinary incontinence and falls.
Calder 2006, ²⁹ Australia	Survey and case-study interviews.	Continence promotion through training and communication resources provided to staff. Provision of patient information resources (posters, counter talkers, stickers) including information on self-help strategies and management options.	Pharmacist staff and patients. 45 pharmacies volunteered to take part and 38 evaluation forms were completed. 45 patients completed a baseline survey and 30 a follow-up survey. 3 Case-study interviews	Survey of participating pharmacies at baseline and conclusion of program. Survey of patients on exit of pharmacy, and administration of Incontinence Impact Questionnaire (IIQ-7) at baseline and 3 months post-baseline. Case-study interview with three participants.	Change in knowledge/understanding and confidence of pharmacy staff in providing continence promotion services. Change in incontinence severity in patients.

Abbreviations: Patient Perception of Bladder Condition scale (PPBC),⁴⁷ Bladder Self Assessment Questionnaire (B-SAQ), Lower Urinary Tract Symptoms (LUTS), International Consultation on Incontinence Modular Questionnaire Urinary Incontinence Short-Form (ICIQ-UI SF),⁴⁸ Incontinence Impact Questionnaire (IIQ-7),⁴⁸

Table 2
Assessment of methodological quality of included studies using the Mixed Methods Appraisal Tool.²⁸

Study ID	Screen		Qualitative										Quantitative					Mixed methods					Total	
	S1	S2	I.1	I.2	I.3	I.4	I.5	2.1	2.2	2.3	2.4	2.5	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5	Y%	
Calder et al., 2006	Y	Y	Y	C	Y	C	C	NA	NA	NA	NA	NA	Y	C	Y	N	Y	Y	Y	C	C	N	C	47 %
Schreuder et al., 2021	Y	Y	Y	Y	Y	Y	Y	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	100 %
Duong et al., 2023	Y	Y	NA	NA	NA	NA	NA	Y	Y	Y	C	Y	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	86 %
Duong et al., 2019	Y	Y	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	Y	C	Y	C	Y	NA	NA	NA	NA	NA	NA	71 %

Y -Yes; N – No; C- Can't tell; NA- Not applicable.

3.2. Evidence synthesis

The results of the evidence synthesis are presented in Table 3.

There was some evidence of the effectiveness of pharmacy-based continence care interventions, in terms of an increase staff knowledge and confidence in the provision of continence advice and distribution of self-help materials, and an increase in referrals to other providers.²⁹ Evidence of the effect of pharmacy interventions on the severity and impact of incontinence was inconclusive due to small sample sizes and low follow-up rates.^{29,30}

Three studies addressed the acceptability of a new continence service to community pharmacy staff, all of which reported generally positively attitudes.^{29–31} The self-help materials that had been provided were used in practice, and time on advice provision to patients was reported to have increased.^{29,30} Frustrations were highlighted regarding reimbursement procedures, time constraints, and communications with other continence providers.^{30,31}

Only one study explored acceptability to patients,²⁹ and reported that the majority perceived pharmacies as comfortable places to discuss continence-related needs, with only a small minority reporting being embarrassed when speaking to the pharmacist. Patients were able to recall the use of posters and leaflets and had a positive attitude to a pro-active approach from pharmacy staff about the service. This was the only study to provide any economic data that related to the purchasing and cost of continence products.²⁹

The facilitators of a pharmacy-based continence service included ensuring appropriate and sufficient reimbursement for the intervention,³¹ and the provision of high-quality self-care resources such as posters and leaflets.²⁹ A staff training program was received positively and increased knowledge of incontinence and its treatment.²⁹ Improved knowledge of other service providers increased the referrals to other providers.²⁹ Time constraints were identified as a potential barrier to the success of a pharmacy-based continence service.³⁰ Although pharmacy staff had generally positive attitudes towards the continence interventions,^{29,31} some staff non-compliance with recommended strategies were identified.³⁰

4. Discussion

The inclusion of only four studies in this systematic review highlights the paucity of research into the potential for community pharmacy to contribute to continence management.

How effective and safe are continence interventions in the community pharmacy setting?

There was some evidence of the effectiveness of pharmacy-based continence interventions in terms of an increase in the provision of aspects of continence care, however further evidence is required to demonstrate the safety and cost-effectiveness in improving clinical outcomes. Evidence from a recent Cochrane review (n = 7 studies) of community pharmacy-based interventions for long term health conditions e.g. diabetes, hypertension, reported slight improvements in health-related behaviours of pharmacy users and patient outcomes compared with usual treatment.³² Four of these studies included an analysis of cost-effectiveness which provided some evidence that the interventions were cost-effective when compared with standard care. Given this effectiveness of pharmacy services with other long-term conditions, more understanding of the potential of continence services is needed.

How acceptable are continence interventions in the community pharmacy setting to patients, carers, and health professionals?

The results indicate that pharmacy staff had generally positive attitudes towards the provision of continence interventions and services within community pharmacies. Similar attitudes have been reported previously with other (non-continence-related) innovations, especially those that are considered beneficial to relationships with patients and other healthcare professionals, or improved staff capability.³³ Only one

Table 3

Effectiveness, acceptability and key determinants of continence interventions in the included studies.

Study	Effectiveness of the intervention	Acceptability of the continence service including key determinants (barriers and facilitators)
Duong 2023, ³⁰ Canada	There was no change in PBBC scores in the pharmacy service group, and worsening scores in the control group. BSAQ scores showed a trend of improved symptom scores and bother in the pharmacy service group, and no change in the control group. ICI-UI-SF scores indicated no symptom score change in the pharmacy services group and worsening symptom scores in the control group.	Pharmacy staff feedback reported implementation challenges that included time constraints and some staff non-compliance with recommended strategies. The mean time spent by the pharmacist with each subject in the intervention was 92.9 min, and 32.7 min for the control group.
Schreuder2021, ³¹ Netherlands	Not evaluated.	Pharmacy staff were generally supportive of the new continence framework. However, the real-world applicability was not convincing to participants, due to reimbursement being perceived to be insufficient, and not flexible enough to tailor to the needs to the patients. Staff reported difficulties with estimating the amount of incontinence, and having to compromise between the patient's requirements or desires and the reimbursement value. Insurance companies also retained the previous system of reimbursement, which presented a barrier to its use and the required change. There was frustration with the lack of communication between the various stakeholders of continence care, in particular with General Practitioners and home care professionals who were perceived to have a lack of knowledge, and could give incorrect advice about continence care products. The patient survey showed that 55 % (n = 105) of participants had leaked urine in the previous 4 weeks. Of those who had lower urinary tract symptoms, only one third (34 %, n = 36) had consulted a health professional. Of the individuals who had consulted a health professional, the majority (97 %, n = 35) consulted physicians and 13 % (n = 5) had consulted pharmacists. The staff survey showed that the resource kit (posters, counter talkers, stickers) was used by all participating pharmacies (n = 38). A large majority indicated they
Duong 2019, ¹³ Canada	Not evaluated.	The staff survey showed that the resource kit (posters, counter talkers, stickers) was used by all participating pharmacies (n = 38). A large majority indicated they
Calder 2006, ²⁹ Australia	Patient IIQ-7 scores worsened at follow-up for travel, social activities, physical activities and emotional health. Postulated to be due to the	The staff survey showed that the resource kit (posters, counter talkers, stickers) was used by all participating pharmacies (n = 38). A large majority indicated they

(continued on next page)

Table 3 (continued)

Study	Effectiveness of the intervention	Acceptability of the continence service including key determinants (barriers and facilitators)
	<p>'Hawthorne effect' where the participants became more aware of their own condition and its impact, due to the intervention. The staff survey showed statistically significant shifts to a higher rating of confidence and knowledge after training, on the urinary and gastrointestinal systems, normal bladder and bowel function, different types of urinary incontinence, faecal incontinence, risk factors for bladder and bowel incontinence, medicines used in the treatment of incontinence, self-management options, and incontinence products. Qualitative feedback from training providers recommended the production of a video to reduce training costs. There was an increase from 50 % to 75 % in the provision of incontinence advice (providing more than one to 2 h of advice a week). Any change in value of sales of continence products in pharmacies was inconclusive due to a more than 50 % non-response rate to this question.</p>	<p>found the training materials and resources useful. Most (85 %) pharmacies (27 out of 32) that provided a response indicated that there had been an increase in customers seeking continence-related products, and an increase in time spent on giving incontinence advice. The majority (82 %) indicated that referrals from/to other health professionals were unlikely to incur an extra cost and the pharmacy gained from an increase in onward referrals through "improved service and care", "goodwill" and "increased professional satisfaction". The very small number of respondents in the baseline (n = 45) and follow-up surveys (n = 30) limited conclusions that could be made. However, in the baseline patient survey, 86 % (n = 39) described the pharmacy as a comfortable place to discuss personal needs. The remaining 14 % felt there was a lack of privacy. When speaking with a pharmacist only 16 % (n = 5) of respondents were embarrassed ('a little, quite, or very'). Brochures and pamphlets were the information sources most often recalled, and disposable pads were the most commonly purchased products. 93 % spent less than \$26 on disposable continence products a week (e.g. pads, undergarments). In the follow-up survey, 30 % reported spending more and 17 % spent spending less. There was a significant increase in the follow-up survey in those using sanitary disposable pads (29 %–57 %), and those that reported that they purchased pads from a supermarket increased from 18 % to 69 %. The case-study interviews with three patients indicated that the pro-active offer of assistance from pharmacy staff was regarded positively, and might help them with the self-management of their condition.</p>

Abbreviations: Patient Perception of Bladder Condition scale (PPBC),⁴⁷ Bladder Self Assessment Questionnaire (B-SAQ), Lower Urinary Tract Symptoms (LUTS), International Consultation on Incontinence Modular Questionnaire Urinary Incontinence Short-Form (ICIQ-UI SF),²⁶ Incontinence Impact Questionnaire (IIQ-7).⁴⁸

of the included studies assessed public attitudes towards the initiative, which were positive. Future evaluations should explore the acceptability of pharmacy-based services to the public, patients and carers.

With appropriate resources, pharmacies can deliver expanded public health roles. National policy in England has highlighted the increasing role of community pharmacy staff for public health interventions as part of a more integrated local care model. In 2017, Public Health England set out the importance of pharmacists in the prevention of long-term conditions through the provision of support in patient self-care, healthy living and behaviour change.³⁴ An example of this is the success of the national pharmacy smoking cessation service in Scotland in 2009, which has seen community pharmacy deliver approximately 70 % of NHS smoking cessation attempts.³⁵ The sector also provided an important role during the COVID-19 pandemic,^{36,37} adapting quickly to supporting vaccination delivery, whilst continuing to manage ongoing services.³⁸

What are the key determinants (barriers and facilitators) to the provision of community pharmacy-based continence interventions?

A key facilitator to the success of future pharmacy-based continence services will be appropriate funding/reimbursement³⁹ and other existing services could provide a model for this. For example, a service which provides extended access to emergency hormonal contraception is a core service delivered from community pharmacies in Scotland.³⁵ This has a set remuneration per intervention that is delivered according to a standard operating procedure, with associated staff training resources. In England, the community pharmacy 'advanced service' is a nationally set and commissioned optional service with specified procedures that a pharmacy can choose to provide (20). An example is the New Medicine Service (NMS) that advises patients on the best use of a newly prescribed medicine. Medicines for continence are now part of the NMS, so a pharmacy-based continence service would be a progression to providing more holistic care.⁴⁰

It is likely that the introduction of a pharmacy-based continence service would need to be accompanied by a public awareness campaign to promote pharmacies as a resource for continence care. Community pharmacy might not currently be considered by patients as a source of advice for bladder or bowel problems.¹³ Evidence from the implementation of national services has demonstrated low public awareness of the additional advice that pharmacies provide, and the need for improved engagement strategies to promote acceptance of innovations.⁴¹ In addition, as with the Australian study,²⁹ the increase in pharmacist knowledge through effective training is likely to be important in providing staff with greater confidence in the assessment and identification of appropriate patients for referral to specialist services or voluntary supporting services.⁴² The two-way communication between personnel in community pharmacies and different services such as general practice and existing or specialist bladder and bowel continence services could be facilitated by strategic organisations (such as the integrated care boards in England).¹² Although secure digital record sharing is increasingly available in UK pharmacies, 'read and write' clinical record access is much campaigned for.⁴³

The most commonly reported barrier to the success of innovations in community pharmacy services is insufficient resources, particularly workforce and time.^{39,41} For national (and international) innovations, whole-team involvement is recommended to help overcome time constraints.⁴¹ Further research is required to explore the challenges associated with this in the community pharmacy landscape, in light of current policy and competing demands for service delivery.⁴⁴ The anticipated adoption of more automated and centralised services by the community pharmacy sector is likely to increase capacity for additional services in the future.⁴⁵ Future evaluations of pharmacy-based continence interventions should include exploration and quantification of the costs (direct and indirect) of the delivery of these services.

5. Conclusions

The small number of studies that could be included from the existing literature limited the continence-specific evidence for the research objectives. However, despite the paucity of research into pharmacy-based continence services, the results of this review and other research within the community pharmacy context indicates that future services of this type are worth further consideration and evaluation. Ideally, this future service would be co-designed by all relevant stakeholders and informed by the evidence presented in this review. Given the prevalence of urinary and faecal incontinence globally, there is under-utilised potential in the contribution of community pharmacy to its management.

CRedit authorship contribution statement

Alan Uren: Formal analysis, Investigation, Methodology, Writing – original draft, Writing – review & editing. **Shoba Dawson:** Formal analysis, Methodology, Writing – review & editing. **Nikki Cotterill:** Conceptualization, Funding acquisition, Methodology, Supervision, Writing – review & editing. **Ade Williams:** Conceptualization, Funding acquisition, Writing – review & editing. **Hugh McLeod:** Conceptualization, Funding acquisition, Writing – review & editing. **David Chandler:** Conceptualization, Funding acquisition, Writing – review & editing. **Margaret Watson:** Conceptualization, Formal analysis, Funding acquisition, Methodology, Writing – review & editing.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.sapharm.2024.04.010>.

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