

Qualitative exploration of the experiences of community pharmacists delivering the Diabetes MedsCheck service

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Abstract

What is known and objective: The Diabetes MedsCheck (DMC) pharmacist service improves patient medication use and provides education on diabetes self-management. The original 2012 program evaluation identified barriers and facilitators in implementation. There are no recent studies exploring pharmacists' experiences with the DMC service. This pilot study may contribute to achieving an optimal diabetes management service in Australia. To explore the experiences of community pharmacists in providing the DMC service.

Methods: A purposive sampling approach was used to recruit practising Australian community pharmacists from July to December 2019. Inclusion criteria included provision of DMC service for more than 1 year and having delivered the service within 3 months of recruitment. Semi-structured interviews elicited pharmacists' experience with the DMC service.

Results and discussion: Twelve interviews of community pharmacist owners, managers and employees (including three who had additional medication review and diabetes qualifications), resulted in four primary themes: benefit of and need for training in diabetes management, challenges of service delivery and implementation, the challenge of patients' diabetes management and the positive effect of DMC on pharmacists' professional satisfaction from the positive impact on patient interactions and diabetes management. Pharmacists highlighted the need for continuous training on diabetes management and patient communication, and a dedicated time and space for service provision for optimal implementation and delivery of DMC. DMC helped to fulfil pharmacists' desires to provide health care. Pharmacists perceived through patient engagement and patient feedback that DMC benefits patient health care.

What is new and conclusion: Positively, the implementation of the DMC service has promoted engagement with other health professionals while also contributing to pharmacists' professional satisfaction. Patient satisfaction and awareness of the health knowledge that pharmacists provide promotes pharmacist capabilities to the public. To ensure that accessible diabetes care in community pharmacy is optimized for greatest patient care, pharmacists delivering DMC should be supported by provision

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of contemporary diabetes management training and communication skills. Additional investment in community pharmacy operational set-up, such as dedicated pharmacist time, dedicated consulting space, upskilling of staff and investment in technology is also required to support optimal delivery of DMC.

KEYWORDS

community pharmacy, diabetes, patient education, quality use of medicines

1 | WHAT IS KNOWN AND OBJECTIVE

It is estimated that 1.8 million Australians have diabetes, including up to half a million who are undiagnosed.¹ Among the many strategies designed to improve diabetes management are pharmacist-led programs. Studies of pharmacists delivering diabetes management programs demonstrate there are clinical and non-clinical benefits to people with diabetes.²⁻⁶

For example, pharmacist-led diabetes management services show improvement in blood glucose levels, glycated haemoglobin (HbA1c, a measure of blood sugar control over the previous 3–4 months), systolic blood pressure, lipid profile, weight, self-care ability, understanding of diabetes management, medication adherence, quality of life and well-being, and economic outcomes.^{2,4,6-8} A meta-analysis of intervention outcomes suggests interdisciplinary and patient-centred interventions to be most effective in reducing HbA1c (–0.81%).⁵ Consequently, in 2012, the Australian government established the community pharmacist-led Diabetes MedsCheck (DMC) service to improve the quality use of medicines and reduce adverse drug events, by helping people with diabetes understand and manage medicines.⁹ The DMC service involves pharmacists providing consultations with the patient to discuss their medicines, with pharmacists providing education on medication, lifestyle and guidance on the correct use of medications and devices. Recommendations are provided to the patient which includes educational material to support medicine use in diabetes. Pharmacists communicate any actions identified, with the patient's consent, to the patient's physician and other relevant health professionals to ensure continuity of care. The program is continuously funded through the seventh Community Pharmacy Agreement and provides funding to each pharmacy for a maximum of 20 DMC services per pharmacy per month.¹⁰ Eligible patients are those residing in a community setting, who have not have received the service within 12 months and, who are taking either five or more medications, a high-risk medication or who have had a recent significant medical event.¹⁰

Unfortunately, however, only a small proportion of patients with diabetes have accessed the DMC service, which may be due to various factors, such as service delivery and community pharmacy staffing and other resource limitations.¹¹ A 2012 initial mixed methods evaluation of DMC which involved surveying and interviewing pharmacists, patients and other stakeholders found that patients benefited from the service and that it improved the relationship between pharmacists with patients and other healthcare

professionals.¹² Primary barriers in the initial 2012 review of DMC were predominantly logistical issues including the lack of patient privacy, time constraints, lack of staff and management support, distractions from other tasks, need for additional documentation and low remuneration to sustain the service cost; there were also pharmacist-related barriers such as low pharmacist knowledge on diabetes management and lack of motivation and commitment.¹²⁻¹⁴ Pharmacist experience with DMC has not been recently nor independently explored.

This pilot study aimed to explore the experience of community pharmacists in providing the DMC service and to explore pharmacists' opinions about approaches to optimize delivery.

2 | METHODS

The qualitative approach selected for this study was informed by grounded theory. Qualitative thematic analysis using an inductive approach was used to explore pharmacists' experience with the DMC service in community pharmacy. One to one semi-structured interviews (Online Appendix S1) were conducted. Data were audio recorded, transcribed and analysed using the thematic analysis approach described by Braun and Clarke.¹⁵ Open-ended questions were designed to obtain an understanding of participants' experiences, perceptions, opinions, feelings, intentions and knowledge without the limitation of a list of closed questions and responses.¹⁶ The study followed the standards for reporting qualitative research.¹⁷ Ethics approval was obtained from the Tasmanian Human Research Ethics Committee, H0018098.

2.1 | Participants

A purposive sampling approach was used combined with snowball sampling. Community pharmacist participants were recruited through advertisement through professional pharmacy organizations and pharmacist special interest group social media pages. Interested pharmacists were provided with the study information sheet and consent form via email. Only Australian registered community pharmacists practising in Australia, who had provided the DMC service for more than 1 year and had delivered the service at least once within the 3 months prior to being recruited were eligible to participate. The intention was to interview a sample up to 20 participants, as suggested by Green and Thorogood.¹⁸

2.2 | Data collection

Audio-recorded telephone interviews were conducted between July 2019 and December 2019. The following participant demographics were collected: age group, gender, State, remoteness¹⁹ and additional qualifications. A semi-structured interview guide (Online Appendix S1) was prepared based on topics identified from the initial evaluation of the DMC program.¹² The first three piloted interviews with study participants were reviewed by the other researchers (CC and CM) to assess the applicability of the open-ended questions and prompts. No modification was required for the subsequent interviews. All recorded telephone interviews were conducted and transcribed by one female researcher, a community pharmacist and provider of DMC service, with introductory training in qualitative research methods and interviewing for qualitative research (DG). Transcripts were checked by a second researcher for accuracy (CC). The researcher (DG) introduced herself and followed the interview guide to question participants. Interview times ranged from 15 to 20 min. Prior relationships with participants were not established with many interviewees before the interviews were undertaken. Participants' knowledge of the researcher's goals and motivations were limited to the information provided in the standard information sheet. All participants were offered the opportunity to review their transcripts. No repeat interviews were carried out.

2.3 | Analysis

Transcription and familiarization with the data were combined with reflection, and questions arising during the initial transcribing process were explored in subsequent interviews where possible. Initial codes were created and grouped into sub-themes. The transcribed data were analysed using QualCoder 1.9 (<https://github.com/ccbogel/QualCoder/releases/1.9>) after interviews were transcribed. Thematic analysis was conducted through inductive coding and creation of sub-themes. Refinement of codes and sub-themes was then undertaken, and sub-themes were organized into themes.²⁰ Themes were identified that characterized the key concepts of the findings. Coding was conducted independently by two authors (DG and CC). All three authors discussed and revised the final coding, sub-theme and theme wording and structure.

3 | RESULTS AND DISCUSSION

Twelve telephone interviews were included in this study. An additional three interviews were scheduled; one did not occur due to conflicts in schedule. The other two interviews occurred but were not included due to audio issues. Of the 12 interviews included, four participants were pharmacy owners, three were pharmacists in charge or managers, and two worked as professional services pharmacists. Most pharmacists worked in metropolitan

areas. A slight majority of pharmacists were female ($n = 7$) and most were between 30 and 39 years old. Four pharmacists had additional qualifications, one being a credentialed diabetes educator. Pharmacists were from four states of Australia, as detailed in Table 1.

Data saturation occurred when the same concepts kept arising in later interviews, with no new themes emerging. The overarching themes identified from the interviews were the importance of pharmacy staff training in diabetes management, challenges in DMC service delivery and implementation, challenges in assisting patients manage their diabetes, and the effect delivering DMC had on pharmacists' personal and professional outlook (Online Appendix S1).

3.1 | Benefit of and need for training in diabetes management

Pharmacists were confident in medication management but reported that additional education and training in diabetes education and management was necessary to support effective DMC provision. Training suggestions included the use of insulin and other injectable medications, diabetes management technologies and blood glucose targets.

Looking at the patient as a whole, the medications, their lifestyle, weight, BMI, blood pressure, that can be a bit more complex [...]. It's about looking at the holistic approach...reviewing the concerns of the patient and looking at things outside the medication spectrum as well.

i8

I mean totally what's lacking out there is training for pharmacists to confidently do it properly.

i8

The benefit of additional training was evident among pharmacists with postgraduate qualifications in Diabetes Education and Management and/or who were accredited as a Credentialed Diabetes Educator (CDE). They were confident in identifying and addressing patient concerns with their diabetes care. Training and experience were considered important in delivering optimal patient care.

I feel like I can provide more [...] because of the training that I received as a diabetes educator and I feel more confident in delivering that information to the patient which I didn't when I was a pharmacist and not a diabetes educator.

i5

Pharmacists accredited to deliver medication management reviews believed their additional training helped them perform a more thorough medication discussion during the DMC consultation.

TABLE 1 Pharmacist demographics

Pharmacist	Role	State	Location	Gender	Age	Additional Qualifications
i1	Owner	Victoria	Urban	Male	30–39	
i2	Dispensary	Victoria	Urban	Female	30–39	Accredited consultant pharmacist
i3	Dispensary, professional services	Victoria	Urban	Female	<30	Compounding pharmacist
i4	Dispensary	New South Wales	Urban	Female	30–39	
i5	Dispensary	Victoria	Urban	Female	<30	Accredited consultant pharmacist; Credentialed diabetes educator
i6	Pharmacist in charge	Victoria	Urban	Male	40–49	
i7	Owner	Victoria	Rural	Male	<30	
i8	Owner	Victoria	Urban	Male	30–39	
i9	Owner	New South Wales	Rural	Male	30–39	
i10	Pharmacist in charge	Western Australia	Urban	Female	30–39	
i11	Manager	Queensland	Regional	Female	30–39	
i13	Dispensary, professional services	Victoria	Urban	Female	30–39	Accredited consultant pharmacist

Note: i12 excluded, poor audio quality.

Definitely it does (having the HMR [home medicines review] background helps) I find that maybe it takes me longer because I ask more in-depth questions.

i2

Ancillary pharmacy staff trained and experienced in diabetes management devices were identified as important assets in supporting the delivery of DMC. Access to training resources was limited by cost and availability.

We also have a dispense tech trained really well and he is very good with troubleshooting of [...] glucose machine and we've also learnt how to put on a CGM [continuous glucose monitor] monitor for our patients as well [...]. It just saves time.

i5

The majority [of patients] are quite open to sit there and have a chat about their medication [...] they don't see that there is anything wrong with what they are doing unless you start probing them with questions.

i5

Pharmacists identified that communication skills are important to facilitate patient engagement of the service.

If I made it sound like... you're doing something silly, they get really defensive... start all conversations [...] positive towards them [patients] rather than pointing out the negatives... that makes them more comfortable, it lets me get more information that way.

i13

3.2 | Challenges of service delivery and implementation

Pharmacists described how they introduced the service to patients and the practicalities, such as time and staffing resources, of implementing the service in community pharmacy.

3.2.1 | Patient engagement

Participants reported that patients who agree to receive the service did not initially believe that they needed a DMC until concerns were identified during the consultation.

3.2.2 | Time management

Managing the availability of both pharmacist and patient at set appointment times was challenging. Participants said DMC delivery was more likely to occur when patients were in the pharmacy and immediately available. DMC delivery was reported to take time due to patients' multi-morbidity and polypharmacy.

It's time consuming [...]. because most of the people would definitely [be] on other medications and its very rare to find someone on diabetes medicine alone.

i2

3.2.3 | Resources

Participants said DMC delivery increased pharmacist workload and required a change in pharmacy physical and staffing set-up. They said pharmacies with more than one pharmacist working at the same time and a dedicated consulting space were more likely to deliver DMC.

There's always one pharmacist who is able to be in the consult room anytime. We're fortunate that we're in a location that kind of allows us to employ more pharmacists and we kind of make use of it with diabetes and other services.

i8

3.3 | Challenges of patient diabetes management

Pharmacists expressed that patients' diabetes self-management with multiple medications and comorbidities was challenging and led to poor medication adherence. They reported that DMC helped pharmacists to identify adverse effects, medication burden and the need for follow-up with other health professionals.

People that are on a lot of medication tend to be a bit open to suggestions as well because they're trying to reduce half of what they're taking so they get frustrated with taking 5 or 6 medication a day.

i8

Participants said their advice addressed some of the medication-related burden concerns, while also supporting patients to self-manage and to understand their treatment. They reported that patients were reassured about the relevance of their regimens.

I do think Medschecks are pretty important in highlighting issues [...] to help patients really understand the medications and to give them a lot of autonomy in how they are controlling the medications as well. It reassures patients that [their] therapy is appropriate and why it's important to continue taking the medications. It...makes them more comfortable... my pharmacist is there [to] follow up on me... It might push them to see a dietician or diabetes educator or see a GP or their podiatrist.

i3

Pharmacists mentioned engagement with other health professionals helped address some of the challenges of managing diabetes:

there's a podiatrist that works upstairs, there's a dietician that works upstairs. It is easier to like follow up on patients and it's a lot more convenient for patients.

i13

3.4 | Pharmacists' professional satisfaction is improved

Pharmacists expressed that providing DMC made them feel professionally and personally more accomplished. They said DMC allowed them to discover patient health care needs that are unmet by other health professionals and allows them to provide more robust counselling on disease management, self-management skills and patient care.

A lot of us like go into pharmacy because we want to help patients, that's what we want to do [...] when you bring up a problem with a patient and they come back to you and they're like, Oh, you know you helped. It feels good as a pharmacist you're like, oh I did something).

i13

Participants were of the opinion that the DMC service reinforces patient trust in pharmacists and promotes the pharmacist's role in the management of patient health, thereby strengthening their professional relationship with patients.

I have felt a change with patients personally [...] if you really spend the time with patients, one, they really appreciate it, and two, they sort of have a little bit more trust in you. They sort of see you as someone that is just trying to help them.

i13

This is the first study to explore the experiences of Australian community pharmacists in delivering DMC since its roll out in 2012. The findings confirmed traditional barriers (e.g., time shortage, pharmacist shortage, and lack of knowledge and confidence) and facilitators (pharmacist and ancillary staff training).^{11,21} Of these facilitators, pharmacists stated training and experience in diabetes management are key enablers in delivering optimal DMCs. Having more than one pharmacist to address the increased workload and an allocated consulting area were also DMC enablers. Pharmacists found DMC especially useful for patients who have limited access to diabetes management support similar to earlier studies.^{13,22,23} The findings confirm the essential role of the pharmacist in a multidisciplinary healthcare approach to diabetes management and confirm that the DMC service strengthens the role of the pharmacist beyond the transactional supply of medications.⁴⁻⁶

As with other studies,²⁴⁻²⁶ pharmacists with additional training in diabetes management were more confident and motivated to provide diabetes-related services such as DMC. Pharmacists who were not accredited to perform medication reviews or up-skilled in diabetes management expressed the need for training and they did not present in interviews with the same confidence of diabetes knowledge as those with additional training. The DMC service in Australia, however, does not require pharmacists to undertake additional training.⁹ In comparison, MedsCheck for

Diabetes in Ontario, Canada requires specific diabetes qualification.²⁷ Pharmacists expressed the need for training in diabetes education, diabetes management and blood glucose targets. The continuing advancement in treatment recommendations, technology and management in diabetes underlines the need to upskill including in injection techniques and demonstration of injectable devices.²⁸ Participants also indicated there was a need to improve their communication skills, which may include motivational interviewing, health coaching, patient-centred care and principles of pharmaceutical care.^{5,12,25,29} Pharmacists accredited to deliver medication management reviews believed they inherently performed a more thorough discussion of patients' general health and medication management during DMC delivery. This may be because the accreditation process contains training on patient-centred care and GP communication.³⁰ A similar approach could be adopted for DMC provision.

Participants reported that the DMC service increases pharmacists' workload, as similarly identified in a US study.²⁴ Having multiple pharmacists available was a facilitator in the delivery of the service, wherein one pharmacist oversees dispensary work while another pharmacist provides non-dispensary services. Participants said dedicated consulting space, separate from the dispensary, provides privacy and facilitates optimal DMC delivery, without distractions. This was important as delivery of DMC was reported to take up to half an hour. Participants said this time could be reduced (and thus their time more optimally used) if the claiming process for service payment is integrated into existing pharmacy software, reducing the administrative workload. Ancillary pharmacy staff experienced in diabetes management and the DMC service was also found to reduce the associated workload and to augment a supportive practice environment. Training of ancillary staff in management aspects of the DMC service may benefit pharmacists clinical and dispensing time.

Poor glycaemic control has been attributed to lack of medication titration, poor medication adherence, insulin refusal and side effects, and poor patient engagement with healthcare providers.³¹ Previous work has shown that medication side effects and adherence place a substantial burden on a person's ability to live a normal life.³² In this study pharmacists observed that diabetes management by patients on multiple medications and comorbidities was challenging and lead to inadequate medication adherence. Pharmacists stated that their advice addressed some of the medication-related burden and helped to support patients to self-manage and understand their treatment. Encouragingly, consultations addressing patients' health beliefs and lifestyle, medication knowledge, blood glucose measurements and referrals to other healthcare professionals have been shown to result in HbA1c reduction (−0.60% to −0.81%).⁵

We found pharmacists felt rewarded professionally through patient recognition and appreciation of the role of pharmacists in health care, similar to US community pharmacists delivering diabetes management services.²⁴ The personalized interaction allowed pharmacists to build rapport, leading, in their opinion, to patients being more willing to ask their pharmacist about concerns which they may not have been comfortable to mention previously.

4 | WHAT IS NEW AND CONCLUSION

A very positive finding is that the implementation of the DMC service has promoted engagement with other health professionals, pharmacist professional satisfaction and reported patient satisfaction and awareness of the health knowledge that pharmacists can provide; these support the findings reported in the 2012 initial review.¹² However, some of the negative aspects remain after 8 years of implementation: the pressure they place on pharmacists' already limited time, the presence of a potential gap in pharmacists' diabetes management knowledge and the potentially insufficient patient privacy in current pharmacy set-ups.

A strength of this study is the diversity of participants representing different roles, practice backgrounds and settings leading to rich discussion. However, a smaller than anticipated number of pharmacists partook in interviews. While we believe the topic was saturated due to repetition of ideas from later participants, we cannot be certain that new concepts would not have arisen with additional interviews. Additionally, there was no interest from older pharmacists (50 years old and over) to participate, and thus, their opinions were not obtained and represented. Furthermore, being a small qualitative study, the findings may not be generalizable. Future research may investigate pharmacist training and application of clinical skills and additional qualifications and accreditation on the quality of DMC services, on patients' health markers and outcomes, and on associated personal and professional satisfaction of participating pharmacists.

Delivery of DMC contributes to pharmacists' professional and personal satisfaction, from the benefit they make to patient care. Pharmacists believe that patients value the additional support their pharmacist provides. To optimize diabetes care in community pharmacy, pharmacists need to be supported through provision of contemporary diabetes management training and communication skills and the provision of dedicated pharmacist time, consulting space, upskilling of their ancillary staff and investment in technology.

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CONFLICT OF INTEREST

None of the authors report any conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author, CC, upon reasonable request.

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SUPPORTING INFORMATION

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