Exploratory Research in Clinical and Social Pharmacy 11 (2023) 100288

Contents lists available at ScienceDirect

Exploratory Research in Clinical and Social Pharmacy

journal homepage: www.elsevier.com/locate/rcsop

What do pharmacy users think of free pharmacy services? Investigating pharmacy users' perceptions, attitudes and willingness to pay for free healthcare from pharmacies

Yasmin H. Abdul Aziz [1,*], Susan J. Heydon, Stephen B. Duffull, Carlo A. Marra

School of Pharmacy, University of Otago, PO Box 56, Dunedin 9054, New Zealand

ARTICLE INFO

Keywords:
Patient care
Patient focused service
Remuneration
Unfunded
Patient perceptions
Community pharmacy

ABSTRACT

Background: Evidence exists of pharmacists providing free or partially subsidised clinical services in order to meet patient healthcare needs. Little is known about how patients perceive the quality and importance of such unfunded services to their healthcare.

Objectives: To explore pharmacy user perspectives about unfunded services such as their valuation, why they chose to access these services from the pharmacy as well as their willingness to pay should pharmacies need to start charging for the provision of such services owing to budgetary constraints.

Methods: This study was nested in a larger nationwide study where 51 pharmacies were recruited across fourteen locations across New Zealand . Semi-structured interviews were conducted with patients who had accessed unfunded services in community pharmacies. Patients were followed up to identify their percieved health outcomes resulting from accessing the unfunded service.

Results: A total of 253 patient interviews were conducted on-site across 51 pharmacies in New Zealand. Two main themes were identified pertaining to (1) patient-provider relationship and (2) Willingness to pay. A total of fifteen different considerations were found to influence pharmacy users' decisions to access health services from the pharmacy. It was found that 62.8% of patients were willing to pay for unfunded services and the majority paying NZD$10.

Conclusion: Patients positively rate these services and largely deem them important for their healthcare. Willingness to pay for services were also variable between patients and were dependant on the type of service accessed.

1. Introduction

Worldwide, there has been an increase in reports that pharmacists are offering services for which the pharmacy receives no remuneration from the government, insurance companies or payments from pharmacy users.[1] As such, these services are perceived as 'free' services to pharmacy users. Recent budgetary constraints and increasing media coverage on funding reductions and the potential economic pressure have led to uncertainty around the sustainability of current unfunded services.[2–4] Uncertainties around the sustainability of current unfunded services poses questions around the impact this would have on pharmacy user health should pharmacies halt the provision of these services in light of economic pressure.

Little is known about how pharmacy users perceive the quality and importance of unfunded pharmacy-based services to their healthcare. Literature around pharmacy user perceptions about the importance of such services to their health is also scarce; it remains to be investigated whether the provision of such unfunded services resolves pharmacy user health issues or are these services an intermediary where ultimately the pharmacy user would still present to their medical practitioner? Finally, what is the value that pharmacy users place on such services and what are the reasons they seek these services from a pharmacy?

Variation in patient perceptions of pharmacists vary widely across the globe. In a survey conducted in Malta, it was found that pharmacy users have the perception that pharmacists should be offering more professional services.[5] Pharmacy users rated pharmacist collaboration for the management of chronic conditions the most important extended service. Diagnostic testing at the pharmacy was rated the second most important.[5] A similar study was conducted in the United Kingdom (UK) where pharmacy users were also asked to describe their attitudes and perceptions towards the proposal of pharmacists having a more extended role in healthcare. Pharmacy users highly rated the idea of pharmacists providing health screening services and healthy living advice as well as supporting other health professionals.[6] In Canada, it was also found that pharmacy users perceive

* Corresponding author.
E-mail address: yasmin.abdulaziz@utoronto.ca (Y.H. Abdul Aziz).
[1] Present address: Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario.

http://dx.doi.org/10.1016/j.rcsop.2023.100288
Received 19 December 2022; Received in revised form 9 May 2023; Accepted 10 June 2023
Available online xxxx

collaboration between the pharmacist and the doctor to be very important; additionally pharmacists offering advice and management of minor ailments was also perceived very important by pharmacy users.[7] Conversely, unlike the findings from the Malta study, Canadian pharmacy users seem to rank screening and monitoring services from their pharmacist to be the least important service.[7] This was similar to the findings among pharmacy users in Qatar with the exception that drug therapy monitoring was perceived to be not part of the pharmacist's role.[8] In the UK, there seems to be dissonance with regards to the knowledge and importance of the pharmacist's role in public health issues, with pharmacy users rating pharmacists higher in terms of their role in advice on medicines, medicine disposal and advice on side effects.[9] Further to this, pharmacy users perceive pharmacists as health professionals whose professional role is to be located behind the counter purely in the dispensary. It is evident, therefore, that globally there seems to be a lack of consistent knowledge and clarity among pharmacy users as to what the role of the pharmacist entails and what services the pharmacists can and should be offering to the users.

At the time of this study in 2019, the New Zealand healthcare system was divided into twenty district health boards (DHBs) coinciding with twenty different regions. Each DHB was responsible for funding allocations relating to health services in their respective regions. Funded services are broadly based on the health needs of regional populations. In July 2022 the DHB system was dis-established aiming to create a national system to remove the fragmentation of services brought about by the DHB system. In New Zealand, people register with a general practitioner (GP) in a medical centre. However, people do not register with a pharmacy and can obtain pharmacy services from more than one pharmacy.[1] Medical centres are deemed private businesses and hence determine their own consultation and service fees (such as screening and vaccinations).[10] Co-payments for consultations and services are allocated by the medical centre and required to be paid by the medical centre user in addition to a payment made by the government, but the overall cost of the service must be within the threshold determined by the DHB. The co-payment is waived in children aged thirteen years old and under by the New Zealand Ministry of Health. The Integrated Community Pharmacy Services Agreement (ICPSA) sets out the remuneration mechanisms for services provided by community pharmacies. As pharmacies are private businesses, the main pharmacy business model in New Zealand involves remuneration for prescription services constituting a core dispensing fee per item as well as retail mark-ups for non-prescription based items. New Zealand does not have a rebate system.

An earlier nationwide study conducted by the research group identified twenty-three types of unfunded services offered across New Zealand community pharmacies.[11] The most commonly provided unfunded service was for the management of minor ailments, accounting for more than half of the unfunded services captured in the study.[11] Other services identified in the study included screening for hypertension and diabetes, wound care and health education.[11] The study also highlighted the fragmented provision of unfunded services throughout the country based on local funding allocations. The fragmented provision of healthcare leads us to question the equity in this service provision.

The aim of this study is to explore pharmacy user perspectives about unfunded services such as their valuation, why they chose to access these services from the pharmacy as well as their willingness to pay should pharmacies need to start charging for the provision of such services owing to budgetary constraints. This study was nested in the nationwide time-motion study investigating unfunded service provision in pharmacies across New Zealand.[11] For the purpose of this study we define pharmacy users as any individuals who accessed an unfunded service either for themselves or on behalf of any other individual at the time this study was conducted.

2. Materials and methods

2.1. Study design

This study was nested in a larger nationwide study where 51 pharmacies were recruited across fourteen locations across New Zealand, Fig. 1.[11] Recruitment was achieved through (1) advertising in *Contact,* a monthly newsletter circulated by the Pharmacy Guild of New Zealand, (2) publications through Pharmacy Today, a New Zealand based pharmacy magazine (3) Snowballing through pharmacist word of mouth. Participating pharmacies were selected to represent the different types of pharmacies found in New Zealand namely (1) independent (2) chain (3) supermarket pharmacies and (4) discount pharmacies. Ethical approval for the nationwide study was granted from the University of Otago Human Ethics Committee (H18/097). Eligible participants in this study were pharmacy users who had obtained an unfunded service from participating pharmacies, either for their use or on behalf of another individual of any years of age. Convenience sampling methods were utilised to interview consenting pharmacy users. A mixed methods approach was used to address the aims of this study. One-on-one short interviews were conducted by the primary author (YA) with pharmacy users to ascertain their perceptions and the value they place on such services. The primary author was experienced in conducting one-on-one interviews throughout their postgraduate training at the time of these interviews.

2.2. Pharmacy user recruitment

Pharmacy user participant recruitment occurred on-site in the pharmacy. Pharmacy users who were observed to have obtained an unfunded service from the pharmacy were approached by the primary investigator and invited to take part in a short interview.

2.3. Data collection

Data pertaining to the pharmacy user's age, sex and ethnicity were collected to ascertain the demographics of pharmacy-users utilising unfunded services. In instances where pharmacy users were between 0 and 16 years of age, their parent/caregiver was asked to participate in the interview on their behalf. Pharmacy users who consented were interviewed in a private area of the pharmacy. Interviews were audio recorded and transcribed verbatim. Interviews were designed for a duration of approximately five minutes, however the length of the interview was guided by the responses of the pharmacy user. Due to the nested nature of this study, data collection ceased once data saturation had been reached in the nationwide study. To ascertain the efficacy of the service and whether the service aided in resolving the pharmacy user's query, a follow up interview by phone was conducted seven days after the initial on-site interview. A message prompting the user to call the researcher was left if the pharmacy-user was not available to answer the phone and the pharmacy-user was able to be clearly identified from their voicemail recording. No personal information was provided in the message. Pharmacy users were phoned up to three times, if no response was received after the third phone call, the pharmacy user was deemed lost to follow up.

2.4. Guide to questions

A short interview guide was developed (Table 1). Interviews were semi-structured in nature, allowing for the exploration of broad perceptions and ideas around unfunded services and why pharmacy-users frequent the pharmacy for such services. The ‘short question’ style of the on-site interview was selected to take into account the nature of pharmacy user flow in the pharmacy. Pharmacy users presenting to pharmacies normally do not linger for long periods of time, tending to quickly enter and exit the pharmacy once the service has been delivered. On-site interviews and pharmacy user follow-ups were conducted by the primary investigator (YA). (See Table 2.)

2.5. Coding and data analysis

Data from the interviews were analysed through inductive coding and thematically analysed using the QSR International NVivo 11 Pro software for Windows (version 11).[12] One third of transcriptions and codes were

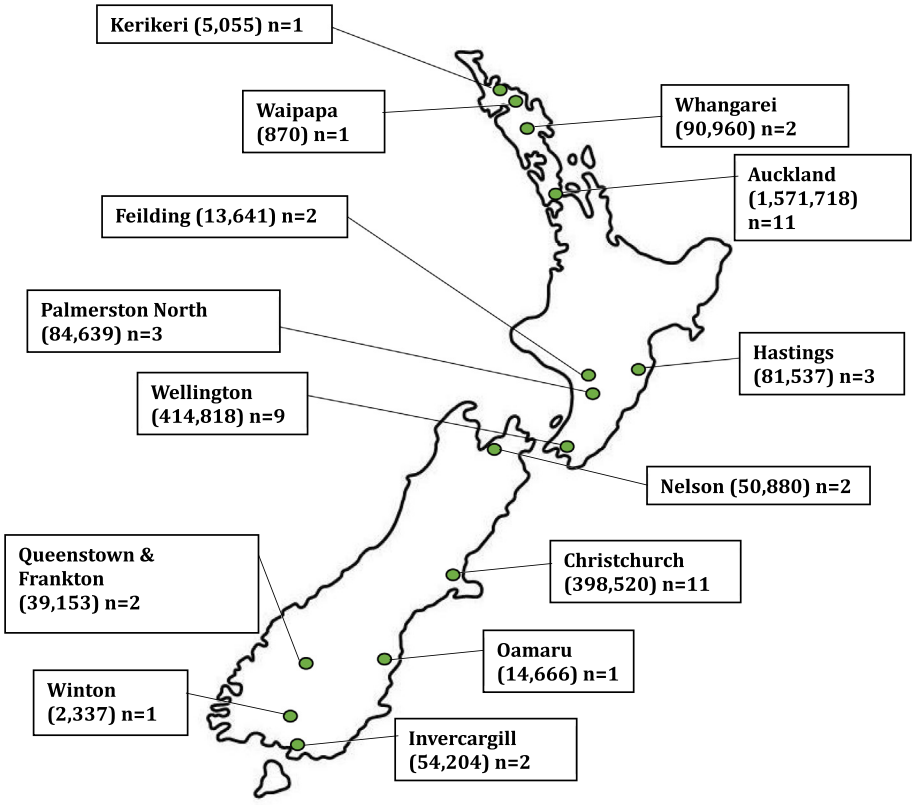

Fig. 1. Locations and numbers of participating pharmacies and, associated populations.

validated by a co-author (SH) to ensure accuracy. Codes were discussed, consensus reached, and a semantic thematic analysis was carried out.

Pharmacy user demographic data were descriptively analysed. A paired samples *t*-test was carried out to ascertain if willingness to pay ex-ante and ex-post yielded statistically different results, to investigate whether pharmacy users' willingness to pay was impacted by the health outcomes they obtained after utilising unfunded pharmacy services.

Table 1
Short interview guide questions for pharmacy users.

Short interview questions for pharmacy users
(1) Why did you choose to see the pharmacy staff for this particular issue (rather than another health professional)?
(2) Where would you have gone today if the pharmacy wasn't open?
(3) How satisfied were you with the interaction? (Based on a scale where 1 = very unsatisfied and 5 = very satisfied)
(4) How valuable was this service to you? (Note 'value' in this instance does not pertain to dollar value)
(5) What amount (in dollars) would you be willing to pay for this service if it was no longer able to be offered for free?
(6) After this interaction, what are your plans to resolve your health enquiry? (e.g. try the pharmacy recommendation, visit GP/emergency room)

Table 2
Follow up questions for the pharmacy user between seven to ten days post on-site interview.

Pharmacy user follow up questions
(1) Did the advice/service from the pharmacy help resolve your query/symptoms?
(2) Did you visit the medical practitioner or other healthcare avenue (urgent care/emergency room) in the last seven days since visiting the pharmacy for the same query/condition?
(3) Now that you have followed the advice from the pharmacist (or wider pharmacy staff) does that change your willingness to pay for the service?
(4) If it does change your willingness to pay, what dollar amount would you be willing to pay now?

3. Results

3.1. Pharmacy user demographics

Due to the nested nature of this study, each observation of an unfunded service in the time-motion study had pharmacy-user demographic data attached to the observation. This included the pharmacy user's sex, ethnicity and age bracket. A total of 660 pharmacy user demographic datasets were collected corresponding to the total number of observations that had occurred as part of the time-motion study. The majority of pharmacy users accessing unfunded services were aged between 30 and 39 years old, followed closely by those aged between 40 and 49 years (Table 3). It should be noted that ten pharmacy users' ages could not be determined due to the nature of the service accessed, i.e., these were interactions over the phone. Table 4 highlights the ethnic groups accessing these unfunded services.

Table 3
Age ranges and proportions of pharmacy users accessing unfunded services.

Age range (years)	Number of pharmacy users (n = 660)	Percentage of total (%) *
0–11 months	53	8%
1–19	32	5%
2–29	44	7%
30–39	160	24%
40–49	123	19%
50–59	65	10%
60–69	75	11%
70–79	46	7%
80–89	38	6%
90–99	14	2%
Missing	10	1%

Table 4
Proportion of ethnic groups accessing unfunded services.

Ethnic group	Percentage of total observations
New Zealand European	74%
Māori and Pacific	9%
Asian	6%
European	4.6%
South American	2%
Australian	1%
North American	1%
South African	0.9%
Middle Eastern	0.6%
Missing	0.9%

3.2. Pharmacy user interviews

A total of 253 pharmacy users agreed to be interviewed across the fifty-one participating pharmacies. Interviews had a mean duration of 2 min and 20 s (range = 1 min and 15 s - 16 min and 18 s). A total of $n = 106$ (41.8%) pharmacy users agreed to be followed up after a period of seven to ten days. Of the n = 106 pharmacy users, 69 (65%) were successfully followed up with $n = 37$ (35%) pharmacy users lost to follow up despite the multiple attempts made to contact them. Pharmacy users who did not agree to be followed up ($n = 147$) cited lack of interest, time and travel abroad as factors for declining follow up. Two main themes were identified (1) Patient-pharmacy relationship and (2) Willingness to pay.

3.3. Pharmacy user satisfaction

The majority of pharmacy users rated their satisfaction with the service received as 'Very Satisfied' (84% ($n = 221$), 'Satisfied' at 12% ($n = 30$) followed by 0.4% ($n = 1$) equal for both 'Neutral' and 'Unsatisfied'. One pharmacy user stated they were unsatisfied with the service received on the day comparing it to service they had received from the same twenty to thirty years ago.

3.4. Referrals

Nine pharmacy users presented to the pharmacy to access unfunded services by referral from their medical practitioner. These services included blood pressure testing (56%), wound care (11%), Community Pharmacy Anti-Coagulation Monitoring Service (CPAMS) to a pharmacy user who did not qualify under the government criteria for funding (11%), and (22%) pharmacy users presented for pharmacist only medications for pain relief and treatment of vaginal thrush. All blood pressure checks were provided free of charge to the pharmacy user, where no reimbursement was offered to the pharmacy from any other avenue.

3.5. Themes identified

Two key themes were identified (1) Patient-pharmacy relationship and (2) Willingness to pay. Within each broad theme a number of patient considerations were identified. These patient considerations were found to overlap and influence patients' relationship with the pharmacy and their willingness to pay.

4. Patient-pharmacy relationship

4.1. Patient-pharmacy relationship

This theme explores the perception and relationship that pharmacy-users have with their pharmacy. A total of fifteen different pharmacy user considerations were found to influence pharmacy users' decisions to access health services from the pharmacy (Table 5). Three main sub-themes were identified (1) Trust (2) Accessibility and (3) Affordability. These were identified based on the most cited reasonings in relation to patient-pharmacy relationships.

Table 5
Reasons why pharmacy users visited the pharmacy for the service.

Reasons why pharmacy users presented to the pharmacy
Ease of accessibility (e.g., on lunchbreak)
Pharmacy is my first port of call
Cheaper than seeing a medical practitioner
Because it is a free service
Know what they are looking for (medicine)
Previously used a medication which they would like to use again
Have already seen the medical practitioner and have come to pick something up
Can't get an appointment with the medical practitioner quickly enough
Does not like seeing the medical practitioner
Recommended by a friend or family member to access the service from the pharmacy
Medical practitioner recommended coming to the pharmacy
Minor condition and does not warrant seeing the medical practitioner
Do not need an appointment to see the pharmacist
Already coming to the pharmacy to collect a prescription and would like to access something else.

4.2. Accessibility

The majority of pharmacy users stated accessibility to be the deciding factor in obtaining services from the pharmacy. This may be accessibility in location; not requiring and appointment to see a pharmacist or the lack of long wait times in the pharmacy environment offering pharmacy users flexibility for pharmacy users' especially if they are accessing the pharmacy during their working hours.

> *"At the moment to go see my doctor, you either sit in a waiting room for about 3 hours to see an on-call doctor, otherwise it's usually 2 weeks wait, even though I have to pay more to get the medicines here rather than get the script [for the medicines], it's quicker to come here and get it sorted."*
>
> *[Pharmacy user 107, female, 40's, pharmacist-only medicine, Palmerston North, suburban pharmacy]*

4.3. Trust

Pharmacy users stated that they trust the knowledge and skillset of the pharmacist and associated pharmacy staff, which led them to access a pharmacy rather than present elsewhere.

> *"I think that kind of advice is the same here as with a GP…but at least the fact that it is free is cool, if you don't have the time or money to see the GP, it's much better to get some good advice for…because they have the same study [qualification] as well…for me I can trust the pharmacy like the GP"*
>
> *[Pharmacy user 157, male, 30's, minor ailments, Auckland, supermarket pharmacy]*

Under the umbrella of trust is the pharmacy users' need for continuity of care and the assurance of being able to access the same pharmacist who has the knowledge about pharmacy users their medical history.

4.4. Affordability

Affordability and lower costs associated with the service was another highly cited factor influencing pharmacy-user utilisation of unfunded services. Many pharmacy users stated that healthcare from medical centres was perceived as expensive. Having the ability to obtain a similar standard of care for certain conditions from the pharmacy at a lower cost was appealing to pharmacy-users.

> *"It's great [coming to the pharmacy]- you walk into the doctors and deal with one thing at a time basically. It costs a lot of money, but if you can get the same product without having to do that, I mean I spent another 60 dollars*

two days ago on stuff to try and help my sinuses. So that's 120 dollars all this week, if I went to the medical doctors for that, there's the consultation fee, and then buy all the other stuff and you might get it a little cheaper. But you have to go back again because you know, and you can't be trusted that you get the same doctor so yeah"

[Pharmacy user 198, female, 60's, minor ailment, Kerikeri, CBD pharmacy]

5. Willingess to pay

5.1. Willingness to pay ex-ante

The majority of pharmacy users expressed a willingness to pay for the service they received from the pharmacy. Of the 253 pharmacy users interviewed $n = 159$ (62.8%) stated they would be willing to pay whilst $n = 79$ pharmacy users (31.2%) stated they would not be willing to pay. A further $n = 12$ pharmacy users (4.7%) expressed a reluctance to pay for a variety of different reasons, with the final $n = 3$ pharmacy users (1.2%) stating that their willingness to pay would depend on the service provided. The majority of pharmacy users who would be willing to pay stated that a fee of NZD$10 for the services provided at the pharmacy was reasonable, with the most common fee for service being in the range of NZD$10–$20. Table 6 illustrates the range of fees proposed by the different pharmacy users who were willing to pay. These fees were taken prior to the pharmacy user following the recommendation of the appropriate pharmacy staff. In some instances, willingness to pay was different post follow up as shown in Table 7.

For pharmacy users who were willing to pay, reasons such as convenience, cost and avoiding long wait times for a medical practitioner's consultation were cited.

"I would be, definitely [be willing to pay] I mean in a sense it's, well it is a medical consultation without the hassle of going to the doctor, so it's shorter time, available, open, so I'd pay, fly in fly out, half a medical fee for a short time"

[Pharmacy user 131, female, 70's, minor ailment, Hastings, CBD pharmacy]

Pharmacy users also stated that whilst they may have the ability to pay for services should they have a fee attached to them, some may not be in a financial position to pay. Others stated they would be willing to pay only if the pharmacist was to give them a larger amount of time for a consultation and would only do so provided the fee was less than that associated with a medical practitioner's visit. Pharmacy users who were not willing to pay cited reasons such as (1) Being accustomed to accessing services from their pharmacy for free such as generational differences; (2) Not perceiving pharmacists' knowledge as thorough as that of a medical practitioner; and (3) Having access to the Internet allows them to diagnose and provide treatment for themselves.

Table 6
Pharmacy users' willingness to pay (ex-ante) and dollar amounts.

Willingness to pay	Number of pharmacy users willing to pay ($n = 159$)
Cheaper than GP cost	3%
Same fee as a GP	2%
Larger fee than the GP	0.5%
Expect to recover cost through product	1%
Unsure of value	11%
$2	2%
$5	8%
$6	0.5%
$10	27%
$15–19	13%
$20	18%
$25	5%
$30	6%
$40	0.5%
$50	2%
$100	0.5%

Table 7
Pharmacy users' willingness to pay ex-post.

Willingness to pay ex-post	Number of pharmacy users ($n = 47$)
Cheaper than GP cost	11%
Same as GP consult	2%
Unsure of value	13%
$5	17%
$10	23%
$15	13%
$20	15%
$30	2%
$40	2%
$50	2%

5.2. Willingness to pay ex-post

Pharmacy users who were successfully followed up were asked if their willingness to pay for the pharmacy service changed based on the outcome of following the recommendations of the pharmacist. Of the 69 pharmacy users successfully followed up, 47 (68%) stated they would still be willing to pay for the pharmacy service, with 39 (83%) stating they would be willing to pay the same amount they stated during the onsite interview.

Similar to the willingness to pay ex-ante, the most common fee pharmacy users were willing to pay ex-post was also NZD$10 (Table 7). Some pharmacy users stated that their willingness to pay would change based upon the type of service accessed.

5.3. Pharmacy user reported health outcomes associated with services received from the pharmacy

At follow up pharmacy users were asked if their medical condition/query had resolved through the recommendation of the pharmacy staff, or the service obtained from the pharmacy. Of the 69 pharmacy users successfully followed up, 46 (66%) stated that their health condition had resolved through the recommendation of the pharmacy staff alone. At the time of follow up, some pharmacy users had not used the product recommended at the pharmacy despite purchasing it on the day ($n = 4$); other pharmacy users stated their condition was resolving ($n = 6$). A further 13 pharmacy users (19%) stated that despite the recommendation and service given, their condition had not resolved. Pharmacy users were asked if they had sought the advice of a GP after visiting the pharmacy; 13/69 (19%) pharmacy users said they presented to the GP and had needed a prescription medicine to resolve their condition, 7/69 (10%) pharmacy users stated they needed to follow up their condition in line with the pharmacist's recommendation and 3/69 (4%) had already planned to visit the medical practitioner prior to presenting at the pharmacy. The remaining 46 pharmacy users did not need to visit the medical practitioner.

6. Discussion

Prior studies have shown that a variety of unfunded services are provided through the community pharmacy setting in New Zealand and abroad.[11,13] It is evident from this study that unfunded services provided by pharmacies lead to some perceived positive health outcomes for many pharmacy users. During the nationwide time-motion study in which this study is nested, it was found that the most common unfunded service provided across New Zealand pharmacies was that of management of minor ailments.[11]

The management of minor ailments is a funded service in different parts of the world, through the 'Community Pharmacy Consultation Service

(CPCS)' in the UK or 'Pharmacist Prescribing for Minor Ailments (PPMA)' which have shown positive impacts on health outcomes.[14–16] Pharmacy users in this study who were successfully followed up had largely presented for help and advice around minor ailments. This is a positive finding and is in line with international literature that suggests cost savings and positive health outcomes from the internationally implemented 'minor ailment scheme'.[15–17] The findings of this study could provide a preliminary indication that such a scheme could be useful in New Zealand, specifically due to the number of pharmacy users presenting to the pharmacy with such queries. This could provide initial evidence, albeit small to support the implementation of a minor ailment scheme in New Zealand in line with the Pharmacy Action Plan 2020.[18] Although the sample size of pharmacy users accessing a comparable service from New Zealand pharmacies is small in this study, the results of this study point to a positive trend of health management when the service is accessed through a pharmacy. Based on the types of conditions presenting to the pharmacy, it was evident that the conditions are mostly low risk and therefore do not need the involvement of a medical practitioner. Findings from this study provide evidence that New Zealand pharmacists are perceived to have the knowledge and the skillset to provide effective services for the management of minor ailments. Findings also confirm that pharmacy users access the pharmacy to seek such minor ailment management services from pharmacists in New Zealand. This is especially important in light of the increased wait times to see a medical practitioner, and in some cases the financial barriers that exist to seek care from other health providers where pharmacy users can access such services in the pharmacy at no cost to them. These findings are in line with pharmacy user perceptions about minor ailment management in the community pharmacy setting in Scotland, where the service was originally implemented.[19]

This study provides a basis for further investigation of the implementation of a minor ailment management service, its efficacy and cost savings in New Zealand.

The study also highlighted that GPs are referring pharmacy users to access certain services from their pharmacy instead of presenting to the GP practice. These services pertain mostly to blood pressure monitoring especially when GPs initiate anti-hypertensive medication for their patients. Reasons for this could be the higher costs associated when pharmacy users have their blood pressure checked in the medical centre, and as such the GP refers the pharmacy user to the pharmacy where BP monitoring is mostly offered at no cost to the pharmacy user. This highlights that some pharmacy users may be struggling to afford these healthcare services when there is a fee attached. This GP referral may also be due to the GP perceptions of the pharmacist and the willingness of the GP to delegate what they perceive as "mundane tasks" to the pharmacist.[20] Conversely pharmacy user referrals to such services could be due to GPs and practice nurses needing to free up their time to tend to pharmacy users with more major or severe health concerns.

The findings of this study are greatly influenced by cultural and legal constraints related to the services provided in community pharmacy. An extensive amount of literature exists highlighting the issues of ethnic and socioeconomic disparities in health outcomes in the New Zealand population.[21–23] This is particularly true for disparities that exist between Māori and Pacific people when compared to New Zealand Europeans. The large majority of pharmacy users interviewed during the course of the research for this study were New Zealand European and as such did not show any statistically significant results between services accessed and ethnicity. Although a significant amount of literature exists about disparities in health outcomes and access to services, this study did not reveal statistically significant different results across categories of ethnicity, income area or age on access to services from the pharmacy. Owing to well established literature in the area of ethnic disparities in access, especially in the New Zealand context, related findings from this study in this area should not be taken as conclusive. The findings may be explained by lower proportion of pharmacy users who are Māori and Pacific people. It is evident that there is a correlation between health disparities and socioeconomic status, hence further investigation is required.

Similarly, no statistically significant difference was found between ethnicity, age or income area and the pharmacy user's willingness to pay for currently unfunded services should the pharmacy ever have to charge a fee. The majority (62.8%) of interviewed pharmacy users stated they would be willing to pay for the service, but it is evident that some pharmacy users view healthcare as currently being expensive. In most instances the cheaper cost of pharmacy services leads pharmacy users to access health service from the pharmacy. Pharmacy users are more likely to pay a fee that is less than that associated with seeing the GP.

The findings of this study align with the literature with regards to the varied public perception of the role of the pharmacist.[8,9] While some pharmacy users perceive a consultation with a pharmacist very similar to that of a medical practitioner, pharmacy users raised some issues such as lack of trust in the pharmacist when compared to the GP as well as perceiving the Internet as a substitute for a pharmacist's knowledge. Additionally, it was found that there are generational differences in willingness to pay, where it was difficult for pharmacy users from older generations to accept the need to pay for services they have been accessing for free during their lifetimes. Generational effects are evident where people above the age of 50 years are accustomed to accessing pharmacy service for free for their lifetime ($n = 29$) when compared to younger pharmacy users. This was evident in areas visited where the majority of the demographic using the pharmacy was largely at 60 years of age and older. Pharmacy users also perceive the medical practitioner to be able to offer them more, by way of referrals for blood tests, more accurate diagnoses and prescribing.

Pharmacy users perceive the pharmacist to be helpful, where in a time of rising pressure on GPs, decreasing availability of timely GP appointments and lengthy waiting times to access an appointment, pharmacy users are taking to pharmacies to access healthcare. This could be by way of obtaining a medicine or advice in the interim while waiting for their appointment, or to test if the pharmacy recommendation can resolve their symptoms. For the pharmacy users who were followed up post accessing an unfunded service from the pharmacy, it was evident that in most cases the pharmacy service sufficed and there was no need to visit the GP.

Overall pharmacy users were largely very satisfied with the unfunded services they accessed from the pharmacy, placing a lot of value on the ability to access such services in a timely manner where barriers to access such as appointments and costs are much reduced compared to the GP.

7. Limitations

The pharmacy users interviewed did not represent a heterogeneous group as ethnicity was skewed towards New Zealand European. This led to the lack of ability to draw conclusions about the impact of ethnicity, if any, on utilisation of unfunded pharmacy services and the pharmacy users' willingness to pay. Although 'income area' data were gathered, owing to the nature of the study design and the fast-paced pharmacy environment, no data were collected on the pharmacy users' socioeconomic status, meaning that no link could be made between access to pharmacy services and willingness to pay. Furthermore, despite the primary investigator's best efforts of repeatedly contacting the pharmacy users, some pharmacy users were lost to follow up. The lower than desirable follow up rate meant some information about pharmacy user outcomes was lost. Finally, no incentives were offered for participation in this project, meaning that the study may have only attracted pharmacy users who wanted to volunteer their time and held strong opinions about unfunded services.

8. Conclusion

Pharmacy users viewed unfunded services very favourably owing to the convenience and lack of barriers to access such services from pharmacies. Affordability is a large factor in pharmacy user access to these services. Although the majority of pharmacy users are willing to pay for these services should they no longer become free of charge, a subset of pharmacy users

stated that rising costs associated with accessing healthcare have led them to utilise such services from the pharmacy.

It seems that the majority of pharmacy users who accessed unfunded services from the pharmacy achieved symptoms resolution with only a small number requiring a follow up or prescription from the medical practitioner.

Funding

This research has been funded by the New Zealand Pharmacy Education and Research Foundation [grant number 307].

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

The authors would like to thank all the participating pharmacy users for taking part in this study.

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