



Home medicines reviews and residential medication management reviews in Western Australia

Petra Czarniak¹ · Laetitia Hattingh^{2,3} · Tin Fei Sim¹ · Richard Parsons⁴ · Bronwen Wright¹ · Bruce Sunderland¹

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Abstract

Background Australian government funding for Residential Medication Management Reviews and Home Medicines Reviews commenced in 1997 and 2001 respectively. Limited data are available on their provision in Australia. **Objective** To investigate the extent and characteristics of Home Medicines Review and Residential Medication Management Review services provided by accredited pharmacists practising in Western Australia. **Setting** Pharmacists in Western Australia accredited by the Australian Association of Consultant Pharmacy or Society of Hospital Pharmacists of Australia. **Method** A paper questionnaire was developed and sent to 198 accredited pharmacists in Western Australia in June 2017. Simple descriptive statistics summarised demographic information and other responses. Logistic regression evaluated factors associated with the frequency of provision of Home Medicines Reviews. **Main outcome measure** Frequency and factors influencing services provided. **Results** Of 102 (51.5%) questionnaires returned, 67 (65.7%) respondents were female. Many were aged between 31 and 40 years (53; 52.0%). Most were accredited by the Australian Association of Consultant Pharmacy (101; 99.0%) and mainly offered Home Medicines Reviews (70; 68.6%). Home Medicines Reviews provided over the previous 12 months were limited in frequency with one quarter providing either 1–10 (27; 26.5%) or 21–50 (28; 27.5%) reviews. The median “average” preparation, interview and report writing times, plus communication with other health professionals aggregated to 175.0 min (interquartile range: 140.0–235.0 min) for Home Medicine Reviews and 110.0 min (90.0–140.0) for Residential Medication Management Reviews. Pharmacists born overseas and those who were accredited for a longer time were associated with performing 51 or more Home Medicines Reviews annually. Only one-third (36/101; 35.6%) agreed the current payment was appropriate. Most agreed their Home Medicines Reviews (92/96; 95.8%) and Residential Medication Management Reviews (26/28; 92.9%) provided improved patient outcomes. Over 97% of accredited pharmacists intended to continue to remain accredited. **Conclusions** Wide variations were evident in the times taken for tasks associated with performing reviews. Most respondents considered their medication reviews contributed to improved patient outcomes. The wide variation in times taken for the reviews suggests a tiered structure for service provision, with appropriate payment within each tier, since most consider current remuneration inadequate.

Keywords Accredited pharmacists · Australia · Home medicines reviews · Medication review · Residential medication management reviews

✉ Petra Czarniak
P.Czarniak@curtin.edu.au

¹ School of Pharmacy and Biomedical Sciences, Faculty of Health Sciences, Curtin University, Kent St, Bentley, WA 6102, Australia

² Gold Coast Health, Gold Coast, QLD 4215, Australia

³ School of Pharmacy and Pharmacology, Griffith University, Gold Coast, QLD 4222, Australia

⁴ School of Occupational Therapy, Social Work and Speech Pathology, Faculty of Health Sciences, Curtin University, Kent St, Bentley, WA 6102, Australia

Impacts on practice

- Pharmacists providing Home Medicine Reviews and Residential Medication Management Reviews consider they lead to improved patient outcomes and safety.
- Medication reviews are an important part of current pharmacy practice, but additional systems need to be developed to improve collaboration with other health professionals, especially doctors.

- The wide variation found in the time taken to perform individual reviews points to a remuneration model that is more reflective of time required to complete the review and could include the associated complexity.

Introduction

Medication reviews are conducted by pharmacists in various settings and are aimed to have a positive impact on patient health outcomes [1]. Pharmacists perform medication management reviews with the objective of improving prescribing, resolving medication-related problems and potentially reducing health service use and costs for patients with chronic conditions [2–4]. Comprehensive medication reviews, across a wide range of clinical settings, are performed in Denmark, Finland, The Netherlands, Spain, Sweden and the United Kingdom, New Zealand, the United States of America and Australia [5, 6]. Pharmacist-participated medication reviews have reported considerable heterogeneity in the outcomes of medication reviews, with some having positive impacts but others contradictory or inconclusive [1]. Several international and Australian studies have shown benefits associated with pharmacist involvement in direct patient care, including improved medication management [7–9]. Recent reports have indicated that pharmacists have significant potential to improve medication safety by reducing medication-related hospital admissions and adverse medication events [6, 10].

In Australia (including Western Australia (WA)), government remuneration for Residential Medication Management Reviews (RMMRs) and Home Medicines Reviews (HMRs) commenced in 1997 and 2001, respectively. These services are only provided by accredited (also referred to as ‘consultant’) pharmacists, who have undergone additional training or credentialing [11]. General Practitioners (GPs) assess patients for eligibility for a HMR based on specified criteria. The process allows the patient to select whether their GP refers them to their community pharmacy of choice, or an accredited pharmacist [12, 13]. The accredited pharmacist reviews the patient’s medication as part of an interview (usually in their home), conducts a clinical assessment and prepares a written report to the GP with relevant findings and recommendations [12]. Studies have shown that these reviews lead to improved health outcomes [14], improved quality use of medicines [11] and reduced hospitalisations in patients with heart failure [8] and patients on warfarin [15]. Referral of eligible patients for a RMMR is usually by the patient’s GP, although a need may be identified by the community pharmacy or accredited pharmacist servicing residential aged care facilities (RACFs) [16, 17]. Similar to HMRs, a RMMR consists of clinical assessment in an RACF

and preparation of a written report which includes relevant findings and recommendations.

An Australian systematic review of clinical medication reviews, which included a wide range of participant characteristics and practice settings, reported that many medication related problems were identified though medication review with the highest in patients discharged from a hospital cardiology ward [6]. The reviews resulted in reductions in the mean number of medications prescribed and hospital admissions [6]. The outcomes included health resource and medicines cost savings sufficient to off-set the cost of the program. Pharmacists who were effective at providing cost-effective medication reviews where those providing higher numbers (≥ 138 per annum) of reviews and were more involved in continuing education, when compared to those who did not perform cost effective medication reviews. [18].

The uptake of medication reviews by veterans in the community was low, highlighting potentially an underutilised service [19]. Accredited pharmacists in Australia are currently paid a single fee for a HMR and a lower fee for a RMMR, irrespective of the time involved or complexity of the review [20]. Recent studies have indicated that collocation of pharmacists with GPs has significantly reduced the time to perform medication reviews and identify and resolve medication related problems [21, 22]. GPs in Australia reportedly have positive attitudes towards medication reviews [23]. Review reports are sent to GPs, to consider the recommendations and where appropriate implement the recommendations. However there is no mechanism or funding that allows for direct collaboration or case conferencing to occur between accredited pharmacists and GPs [24]. In addition the number of HMRs that can be provided by a single accredited pharmacist is capped potentially decreasing access for those most at risk to medication related problems.

In WA, the degree to which accredited pharmacists are actively delivering reviews, the services they deliver and how much time, on average, is involved are unknown.

Aim of the study

The aims of this study were to investigate the extent and characteristics of HMR and RMMR services provided by accredited pharmacists practising in WA.

Ethics approval

This study was approved by the Human Research Ethics Committee of Curtin University (Approval Number HRE2017-0036-04).

Method

Questionnaire design

A questionnaire was developed by the authors, some who were accredited pharmacists, who considered relevant literature, to explore the provision and functions of accredited pharmacist's medication management review services in WA. The HMR, RMMR and QUM guidelines/business rules were reviewed in its development [11, 12, 16]. The eight-page questionnaire consisted of five sections with 36 questions. The sections were: Part A: Accredited pharmacist details (12 questions); Part B: HMR services (11 questions); Part C: RMMR services (9 questions); Part D: QUM services (one question); Part E: Opinions regarding HMR and RMMR services (three questions). Some of the questions in Sections B, C and D were Likert scales to select between 'All of the time', 'Most of the time', 'Some of the time', 'Rarely' or 'Never'. Sections B and C required respondents to complete a table, stating the shortest, average and longest time (in minutes) taken to complete activities associated with HMRs or RMMRs respectively, including preparation time for the interview in addition to the actual interview, report writing to the GP and communication with other health professionals (beyond report writing). Part E consisted of three questions—the first two questions were assessed on a five-point Likert scale (strongly agree, to strongly disagree, undecided) and the third question requested written responses from respondents. Respondents were asked to complete Parts A and E and only other sections relevant to them.

The questionnaire was face and content validated by eight independent accredited pharmacists. Feedback improved the clarity of some questions. A final booklet-style questionnaire was preceded by two pages containing information about the nature and purpose of the study, the objectives, and significance of the study, as well as confidentiality and ethics information. A gift voucher (AUD\$ 20) was offered to respondents as a token of appreciation upon completing the questionnaire. To receive this, participants had to provide a name and mailing address on a separate form along with the questionnaire.

Questionnaire distribution

The questionnaires were couriered to the Australian Association of Consultant Pharmacy (AACCP) head office in the Australian Capital Territory, on 31st May, 2017. The AACCP posted the questionnaires to a census sample of 200 AACCP accredited pharmacists residing in WA. Follow-up reminder emails were sent by the AACCP on 15th June and

3rd July 2017. Additionally, two WA accredited pharmacists registered with the Society of Hospital Pharmacists of Australia, were mailed the questionnaire by the research team.

Data analysis

All data were entered by trained computer data entry clerks into SPSS, Version 22 (IBM USA, 2013). Data were checked for accuracy by one of the researchers. Statistical analysis used SAS version 9.2 (SAS Institute Inc. Cary, NC, USA, 2008). Demographic and frequency data were analysed using simple descriptive statistics. Where respondents were asked to record their shortest, average and longest times taken to complete specific HMR or RMMR tasks, the response times were aggregated for each of these elements. Data were summed for all of the average times recorded for each element to provide the overall aggregated times. To evaluate factors associated with the number of HMRs performed univariate data examined associations with the demographic data and elements of the review process. Logistic regression examined independently associated variables with the provision of 51 or more HMRs by respondents. All univariate factors were included in the regression model and the final model was reached by a process of backward elimination. Least significant variables were consecutively dropped until all variable remaining were significantly associated with the outcome. A p value of <0.05 indicated a statistically significant association.

Results

Demographic data

Of the 202 questionnaires posted, four questionnaires were excluded as two participants were involved with this study (therefore ineligible to participate) and two were returned to sender. Of 198 eligible questionnaires, 102 (51.5%) were completed and returned.

Table 1 shows the demographic characteristics of respondents. A majority was female (67; 65.7%) and aged between 31 and 40 years (53; 52.0%). Most obtained their initial pharmacy qualification in Australia (85; 83.3%) and their registration to practice as a pharmacist in Australia between 2000 and 2009 (47; 46.1%). The highest qualification of the majority of respondents was a Bachelor of Pharmacy (68; 66.7%).

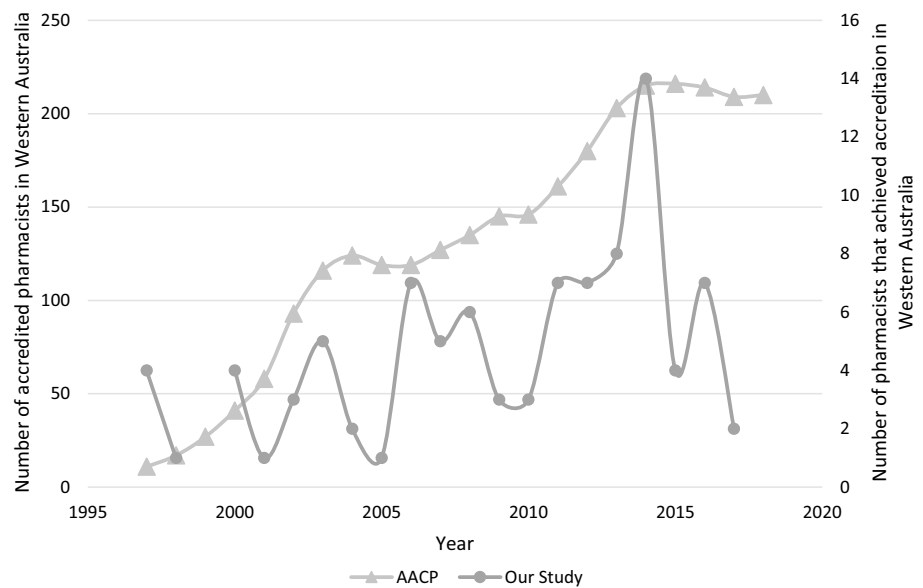
Respondents gained accreditation status between 1997 and 2017 with many becoming accredited between 2010 and 2014 (39; 38.2%). Data for the number of WA pharmacists holding AACCP accreditation annually since 1997 (personal communication AACCP 26.11.2019) and the year

Table 1 Demographic data of Western Australian accredited pharmacists

Demographics	Frequency		Demographics		Frequency		Demographics		Frequency	
	n	%	n	%	n	%	n	%	n	%
Gender (n = 102)										
Male	35	34.3	85	83.3	68	66.7	101	99.0	101	99.0
Female	67	65.7	8	7.8	3	2.9	1	1.0	1	1.0
Age group (n = 102)										
21–30	9	8.8	3	2.9	6	5.9	99	97.1	99	97.1
31–40	53	52.0	1	1.0	3	2.9	2	2.0	2	2.0
41–50	19	18.6	1	1.0	15	14.7	1	1.0	1	1.0
51–60	16	15.7	1	1.0	2	2.0	1	1.0	1	1.0
≥ 61	5	4.9	1	1.0	5	4.9	1	1.0	1	1.0
Country of birth (n = 102)										
Australia	56	54.9	1	1.0	5	4.9	70	68.6	70	68.6
China	3	2.9	6	5.9	15	14.7	3	2.9	3	2.9
Malaysia	10	9.8	12	11.8	22	21.6	27	26.5	27	26.5
New Zealand	2	2.0	14	13.7	39	38.2	2	2.0	2	2.0
United Kingdom	9	8.8	47	46.1	13	12.7				
Other	22	21.6	18	17.6	8	7.8				

*BSc (Honours) Pharmacy, Postgraduate Diploma in Pharmacy; Master of Pharmacy (Clinical Pharmacy), FACP AACPA; Fellow ACP
 AACP Australian Association of Consultant Pharmacists, SHPA Society of Hospital Pharmacists, HMR Home Medicines Reviews, RMMR Residential Medication Management Reviews

Fig. 1 Annual number of AACP accredited pharmacists in Western Australia and the number of respondents accredited each year



in which respondents became accredited are provided in Fig. 1. Most respondents completed their initial credentialing with the AACP (101; 99.0%). Most offered ‘HMR services only’ (70; 68.6%) rather than ‘RMMR services only’ (3; 2.9%) and some (27; 26.5%) offered ‘both HMRs and RMMRs’. A majority planned to stay accredited until December 2018 (99; 97.1%). Comments made by pharmacists who did not intend to remain accredited or that were unsure about remaining accredited (3; 3.0%) included ‘not worth it’, ‘remuneration inadequate’, ‘lack of doctor’s participation’, ‘cost of maintaining references,’ ‘not much work’ and also ‘full time in hospital pharmacy’. Many respondents had other pharmacy roles, mainly in community or hospital pharmacy (Table 2).

Performance of HMRs

The number of HMRs provided over the previous 12 months by individual accredited pharmacists ranged from none to more than 101, with a majority providing 1–10 (27; 27.8%) or 21–50 (28; 28.9%) services (Table 3). An analysis of activities associated with the number of HMRs performed showed that of the 97 responses to this question 27 provided 51 or more per year. Univariate associations showed that those born overseas significantly provided 51 or more HMRs compared to those born in Australia ($p=0.042$). Those that had been qualified longer (2008 versus 2012) were significantly more likely to complete 51 or more HMRs ($p=0.015$) and took less time to prepare for the interview (20 vs 30 min) $p=0.025$. Only the first two factors were found to be independently associated with the provision of 51 or more per year (Table 4). The results of the analysis show that the odds of an overseas-born pharmacist performing 51 or more HMRs per year was 4.2 times that of their Australian-born

Table 2 Other pharmacy related roles that accredited pharmacists were involved in on a weekly basis

Other roles working as a pharmacists	Number of pharmacists working in these role	
	n	%
Community pharmacist	66	64.7
Hospital pharmacist	22	21.6
General Practice pharmacist	3	3.0
Aboriginal Health Service pharmacist	3	3.0
Diabetes educator	3	3.0
Academic role	8	7.8
NPS ^a Facilitator	3	3.0
Government administration role	1	1.0
Primary Health Network role	1	1.0
Other ^b	10	9.8

NPS^a = National Prescribing Service

NB: ^bOther roles included military general practice pharmacist, pharmacist in infectious disease clinic, consultant pharmacists for Silver Chain Home Hospital, Australian Health Practitioner Regulation Agency/Australian Pharmacy Council

counterparts. The odds ratio of 0.86 for the year of qualification indicates that as the year of accreditation increases, the odds of performing 51 or more HMRs decreases.

Accredited pharmacists received HMR referrals from GPs directly and referrals from GPs were provided to community pharmacies some to all of the time (76; 74.5% and 59; 57.8% respectively). Few accredited pharmacists received HMR referrals from independent organisations some or most of the time (6; 5.5%) and only 12 accredited pharmacists (11.8%) received HMR referrals directly from the patient (Table 5).

Table 3 Number of Home Medicines Reviews (HMRs) and Residential Medication Management Reviews (RMMRs) provided by accredited pharmacists who offered the service in the previous 12 months

HMRs over last 12 months (n=97 respondents)	Frequency	
	n	%
0	8	8.3
1–10	27	27.8
11–20	7	7.2
21–50	28	28.9
51–100	14	14.4
> – 101	13	13.4

RMMRs over last 12 months (n=30 respondents)	Frequency	
	n	%
0	7	23.3
1–50	17	56.7
51–100	3	10.0
101–250	2	6.7
251–500	0	0.0
501–1000	0	0.0
> = 1001	1	3.3

Table 4 Logistic regression model reporting the demographic and practice factors that were independently associated with respondent' annual provision of 51 or more Home Medicines Reviews

Variable	Odds ratio	95% confidence interval	p value
Country of birth	1 (reference)	1.37–13.25	0.0125
Australia	4.25		
Other			
Year qualified as an accredited pharmacist	0.86	0.77–0.95	0.0045

Conducting HMRs and RMMRs

Most accredited pharmacists conducted the HMR interview themselves (83; 81.4%) and some (10; 9.8%) reported

that they conducted an interview in a place other than the patient's home for various reasons, including safety, cultural reasons associated with interviewing Aboriginal patients and those living in crowded houses. When respondents were asked individually about their shortest, average and longest time taken for each element of the review process, the aggregation of these response times for all respondents are provided in Table 6. It is notable that a wide variation existed in the time taken for each of the tasks for both HMRs and RMMRs. The aggregated median values for all the reported "average" times taken by respondents show that all of the tasks required almost 3 h for HMRs and almost 2 h for RMMRs (Table 6). Although some accredited pharmacists did not communicate with doctors or other health professionals, the median times reported for communication were 10 and

Table 5 Sources of Home Medicines Reviews (HMRs) referrals received by accredited pharmacists

	HMR Referrals		HMRs from GPs		HMRs from Community Pharmacists		HMRs from Independent Organisations		HMRs from Patients Directly	
	n	%	n	%	n	%	n	%	n	%
All of the time	18	17.6	10	9.8	0	0.0	0	0.0	0	0.0
Most of the time	40	39.2	16	15.7	4	3.9	0	0.0	0	0.0
Some of the time	18	17.6	33	32.4	2	2.0	12	11.8	12	11.8
Rarely	2	2.0	12	11.8	3	2.9	17	16.7	17	16.7
Never	7	6.9	5	4.9	50	49.0	35	34.3	35	34.3
Not in the last 12 months	4	3.9	4	3.9	4	3.9	4	3.9	4	3.9
Missing	13	12.8	22	21.6	39	38.3	34	33.4	34	33.4

Table 6 Time taken to perform tasks associated with Home Medicines Reviews (HMRs) and Residential Medication Management Reviews (RMMRs)

Task associated with HMRs and RMMRs	Duration	Minutes	Mean	Median	IQR
HMRs					
Preparation time for interview	Shortest	0–120	21.5	15.0	20.0
	Average	5–150	36.7	30.0	30.0
	Longest	10–240	61.8	40.0	60.0
Duration of interview	Shortest	5–120	37.1	30.0	15.0
	Average	20–180	60.2	60.0	15.0
	Longest	45–280	97.4	90.0	55.0
Report writing to doctor	Shortest	4–300	56.9	45.0	30.0
	Average	6–420	96.3	60.0	60.0
	Longest	8–800	163.7	120.0	90.0
Communication with other health professionals	Shortest	0–30	7.4	5.0	6.5
	Average	0–60	14.8	10.0	12.0
	Longest	0–120	22.0	15.0	20.0
Aggregate	Average		206.4	175	95.0
RMMRs					
Collection of information	Shortest	5–30	22.0	25.0	15.0
	Average	10–60	37.2	40.0	15.0
	Longest	20–120	60.0	60.0	20.0
Report writing to doctor	Shortest	5–120	37.0	30.0	5.0
	Average	20–180	64.6	45.0	20.0
	Longest	30–300	96.8	82.5	60.0
Communication with doctor	Shortest	0–20	5.8	5.0	8.0
	Average	0–45	11.5	10.0	10.0
	Longest	0–60	18.8	15.0	20.0
Communication with other health professionals	Shortest	0–20	6.6	6.5	10.0
	Average	0–60	16.3	15.0	10.0
	Longest	0–90	26.3	20.0	15.0
Aggregate	Average		126.9	110.0	50.0

Table 7 Number of aged care facilities serviced by pharmacists performing Residential Medication Management Reviews (RMMRs)

Number of aged care facilities currently serviced	Frequency	
	n	%
0	6	20.0
1	14	46.7
2	5	16.7
3	2	6.7
5	1	3.3
10	1	3.3
40	1	3.3

15 min respectively. Of the 30 pharmacists that conducted RMMRs, one-fifth (20.0%) did not provide QUM services to any aged care facilities and many (14; 46.7%) serviced one aged care facility with most (24; 80%) providing 50 or less RMMRs in the previous year (Table 7).

Communication with other health professionals

In addition to preparing a written report for the GP, accredited pharmacists involved in both HMRs and RMMRs communicated with health professionals other than GPs (Figs. 2, 3).

Opinions about HMRs and RMMRs

Only 36 (35.6%) respondents agreed that the current payment for HMRs was appropriate and 13 (13.7%) agreed payment for RMMRs was appropriate (Fig. 4). A majority of respondents agreed that their HMRs (92/96; 95.8%) and their RMMRs (26/28; 92.9%) resulted in improved patient outcomes. A majority reported that recommendations for medication changes were valued by GPs all or most (64; 65.3%) or some of the time (32; 32.7%) and that recommendations for medication changes were implemented all or most (64; 65.3%) or some of the time (31; 31.3%) (Fig. 5). However, only few accredited pharmacists (8; 8.1%) discussed medication reports with GPs all of the time.

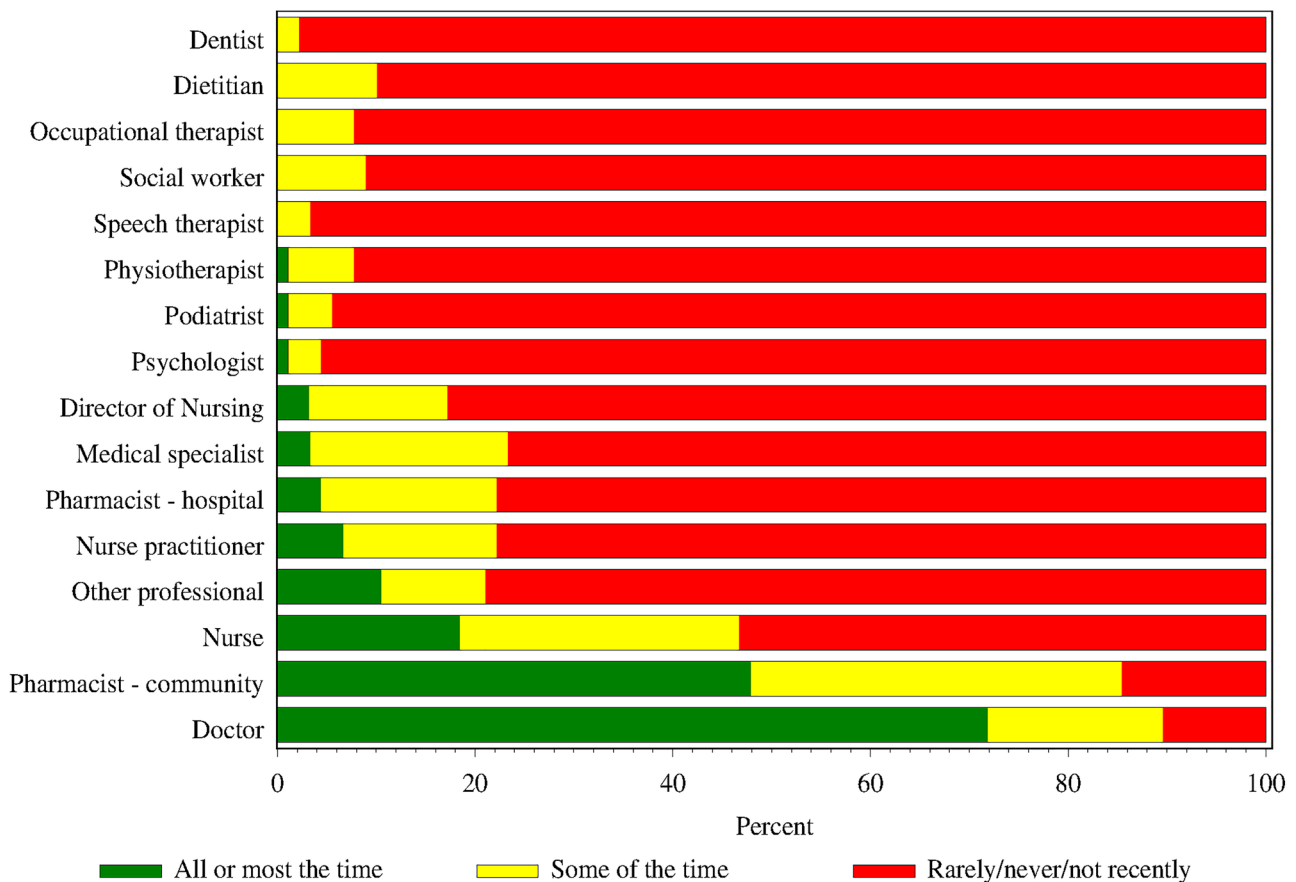


Fig. 2 Frequency of communication between accredited pharmacists and other health professionals (in the last 12 months) in relation to Home Medicines Reviews (HMRs)

Discussion

Most respondents provided HMRs and a small number provided RMMRs and usually serviced one or less aged care facilities. A majority of accredited pharmacists performed reviews part-time as they mainly worked as community or hospital pharmacists. HMR referrals were usually received from GPs (76; 74.5%) or indirectly through community pharmacists (59; 57.8%). It is not known how referrals were received from patients and could be via an indirect pathway.

Only 27 of 97 respondents completed 51 or more HMRs per year, overall showing low numbers of medication reviews performed. Those born overseas and those who had been accredited for longer, were significantly more likely to perform 51 or more HMRs. Of note was the wide variation amongst respondents for the times spent on tasks associated with HMRs and RMMRs. The only univariate association showing significance for any of the times taken in the process was the time to prepare for the interview, which was shorter (20 vs 30 min) for those doing 51 or more per year. This however was not independently associated and may be influenced by other factors. The complexity of the

particular review was not considered in this study since there is no validated definition or standard for complexity. It has been reported that improved economic efficiency is achieved when pharmacists are providing a higher number of HMRs. [18].

Several changes to HMRs were introduced in 2014 as part of Australian Government's strategies, which included that HMR referrals would expire after 3 months and capping HMRs to 20 per month for each service provider [25]. The HMR cap may limit opportunities for those providing HMR services or to achieve cost effective efficiency. Few HMR respondents were however doing sufficient reviews to reach the cap. The reasons for this should be investigated but could relate to 20 HMRs per month not providing an adequate income from full-time HMR work, requiring pharmacists to have another income source rendering HMRs a secondary role. This study has found the overall time taken for a HMR is approximately 3 h and 2 h for an RMMR excluding travel time. Several studies that have investigated home visits, estimated that each home visit required 2 h, not including other tasks such as preparation, report writing or discussion with the GP and follow up [26, 27]. Considering

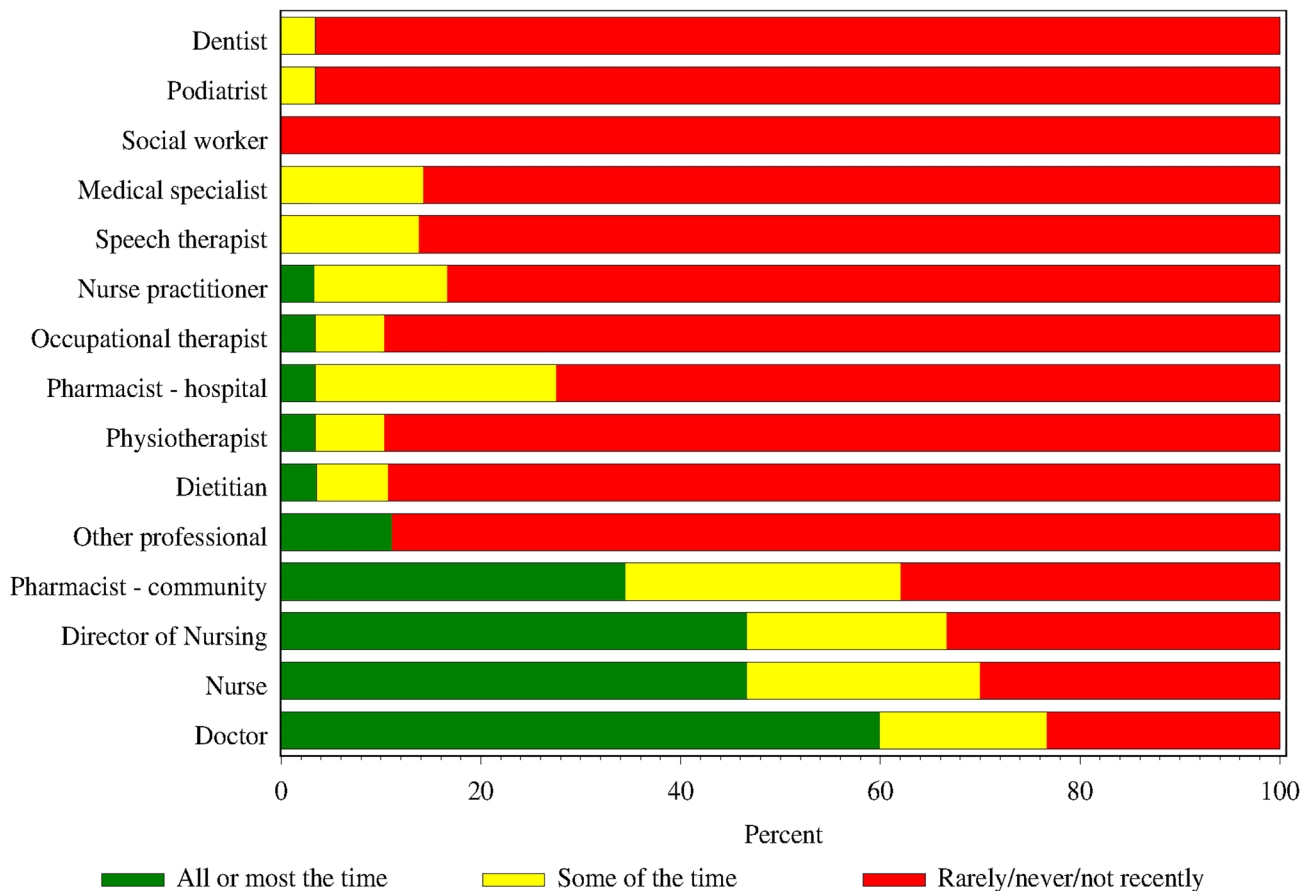


Fig. 3 Frequency of communication between accredited pharmacists and other health professionals (in the last 12 months) in relation to Residential Medication Management Reviews (RMMRs)

that current remuneration for a HMR is AUD\$219.69, where the total time involved is on average 3 h, remuneration appears inadequate compared to other services [20]. The cost involved with essential resources and the annual accreditation fees may provide little incentive for pharmacists to remain accredited. However it is notable that > 98% intended to stay accredited. With respect to RMMRs, the overall time is approximately 2 h and remuneration for a RMMR service is AUD\$111.09, so it is not surprising that few accredited pharmacists in this study were of the opinion that payments for HMRs and RMMRs were appropriate [20]. Becoming and remaining an accredited pharmacist involves significant costs and requirements [28]. Our data (Fig. 1) shows an increase in the number of pharmacists accredited with AACP and also gaining accreditation over the years up to 2014 but the total number has stabilised and less pharmacists have become accredited since 2014.

Consistent with other studies, many respondents considered that their HMRs or RMMRs lead to improved outcomes [6]. A prospective study in the USA, that involved home visits by a pharmacist to review medications following hospitalisation, identified a lack of clinically important therapies,

therapy duplication and nonadherence to treatment which otherwise could have led to re-hospitalisation [7]. A HMR randomised controlled trial (RCT) of patients with chronic conditions in Jordan, reported a decrease in the number of treatment-related problems and improved patient adherence in the HMR group [29]. However, not all HMRs resulted in changes to medications or other parameters, especially in patient groups that were closely monitored. A retrospective Australian study investigated the degree of international normalised ratio (INR) control in veterans taking warfarin who were exposed and not exposed to a HMR, researchers reported that HMRs were not associated with a change in INR control [30]. A RCT in Australia, across Queensland, New South Wales and WA, investigated the effectiveness of a multidisciplinary service model delivering medication reviews to patients at risk of medication misadventure. Researchers reported that many recommendations by pharmacists were implemented resulting in positive outcomes [27].

This study has some limitations. Although a reasonable response rate occurred, opinions of non-responders could vary. Some respondent bias could exist since non-responders

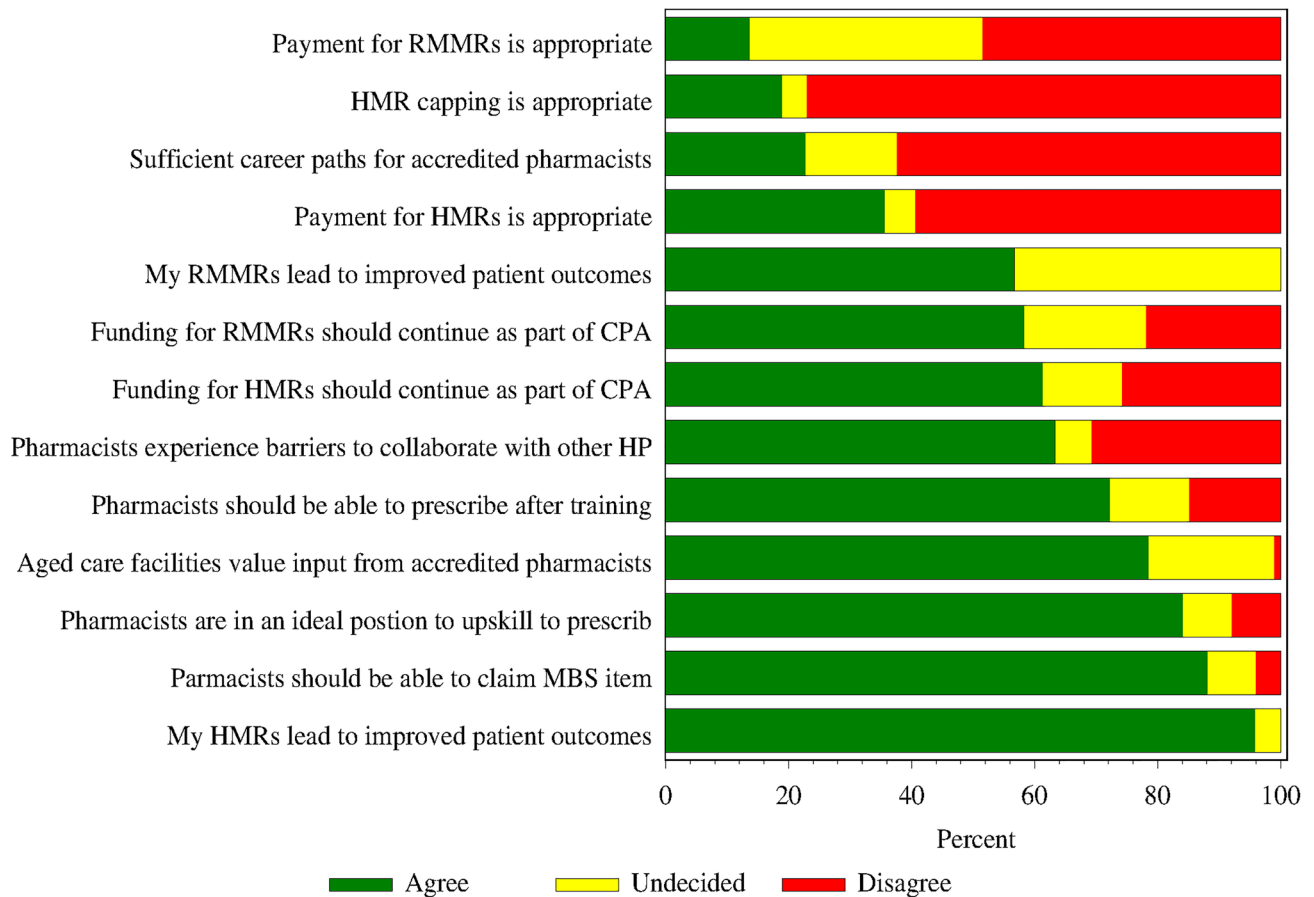


Fig. 4 Opinions of accredited pharmacists in WA regarding Home Medicines Review (HMR) and Residential Medication Management Review (RMMR) services. [CPA - Community Pharmacy Agreement; HP = Health Professionals; MBS = Medicare Benefits Schedule]

were not active providers of services and did not participate. The study was only conducted in WA, however, the same services are provided nationally. The accuracy of the reported data, with respect to the times associated with each component of the HMR or RMMR, cannot be verified, but review reports prepared for GPs, ensure accurate records should be available. The quality of the reports provided was not assessed which could influence the time taken for preparation.

Conclusion

Both HMRs and RMMRs are important components of current pharmacy practice. There is a wide variation in the time taken to complete various activities throughout the process of service provision processes suggesting the introduction of service classifications. Remuneration for the services provided by accredited pharmacists remains an important issue. The current capping of HMRs may have impacted on the number of pharmacists choosing an accredited pharmacist career path considering financial viability. However more than 97% of respondents intend to remain accredited. Communication pathways with GPs need to be more formalised and remunerated, including in some cases the option of case conferencing.

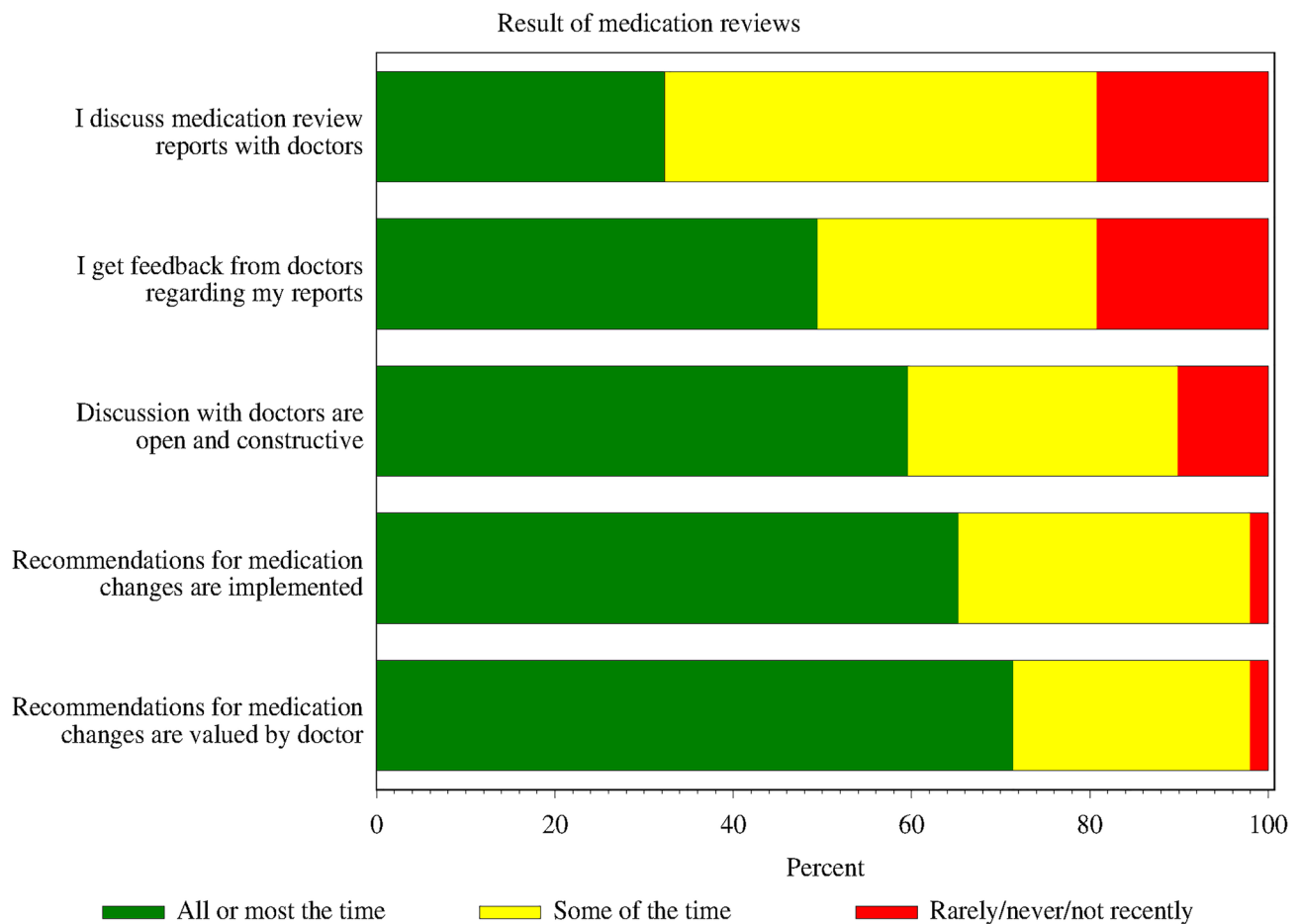


Fig. 5 Frequency of outcomes as a result of medicines reviews

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