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Australian community pharmacy service provision factors, stresses and strains: A qualitative study

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ABSTRACT

Introduction: Despite the desire of pharmacists to provide new and more clinically focused services, strain on the community pharmacist workforce is a known barrier to their service provision. Causes are unclear, although the impact of increased workload, as well as broader role-related and systemic causes have been suggested.
Aims: To (1) explore the role strain, stress and systemic factors affecting Australian community pharmacists' provision of cognitive pharmacy services (CPS), using the Community Pharmacist Role Stress Factor Framework (CPRSFF), and (2) adapt the CPRSFF to the local setting.
Methods: Semi-structured interviews were conducted with Australian community pharmacists. Transcripts were analysed with the framework method to verify and adapt the CPRSFF. Thematic analysis of particular codes identified personal outcomes and causative patterns in perceived workforce strain.
Results: Twenty-three registered pharmacists across Australia were interviewed. CPS role benefits included: helping people, and increased competency, performance, pharmacy financial return, recognition from the public and other health professionals, and satisfaction. However, strain was worsened by organisational expectations, unsupportive management and insufficient resources. This could result in pharmacist dissatisfaction and turnover in jobs, sector or careers. Two additional factors, workflow and service quality, were added to the framework. One factor, "View of career importance versus partner's career", was not apparent.
Conclusion: The CPRSFF was found to be valuable in exploring the pharmacist role system and analysing workforce strain. Pharmacists weighed up positive and negative outcomes of work tasks, jobs and roles to decide task priority and personal job significance. Supportive pharmacy environments enabled pharmacists to provide CPS, which increased workplace and career embeddedness. However, workplace culture at odds with professional pharmacist values resulted in job dissatisfaction and staff turnover.

1. Introduction

Stress and strain is endemic in the community pharmacy environment, and a growing problem for the professional pharmacist workforce internationally,[1,2] including Australian community pharmacists.[3–5] In Australia, pharmacies in the community can only be operated when a registered pharmacist is present, and are licensed by the government according to approximate population need in a region.[6,7] Due to government regulation, there has been a focus on providing newer 'cognitive pharmacy services' (CPS) in pharmacies, which require comprehensive review of patients' medicines, such as medication reconciliations, screening services and motivational adherence interviewing.[7] Pharmacists report that they want to provide CPS, as opportunities to provide professional knowledge directly to patients.[2,8]

To date, governmental policies on pharmacy regulation and pharmacist remuneration for pharmacy service delivery have been analysed on a macro level.[9–13] On the *meso* level, organisational factors such as organisational flexibility, physical pharmacy layouts, workflow automation, and change management have also been explored.[14–20] On the micro level, community pharmacy service research has focused on patient/user and carer perspectives, pharmacist performance, behavioural change, pharmacist collaboration, and clinical decision making.[21–29] However, the challenges from an

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individual practitioner perspective require more investigation, particularly the factors causing workforce stresses and strains.[30–33] During a time when pharmacists are being increasingly called upon to perform public health functions such as delivering vaccination programs and disease screening, and are appropriately recognised as highly accessible health professionals embedded in the community, sub-par care and the unnecessary loss of skilled clinicians from the community pharmacy workforce must be avoided.

This paper explores the personal impact of CPS provision on Australian community pharmacists (e.g. dissatisfaction, turnover, physiological impact), by applying and examining the relevance of a framework of community pharmacists' role stress factors in the Australian setting. We also propose future uses of this framework.

2. Objective

The aims of this paper are to:

(1) explore role strain and benefits, role stress and causative role stress factors involved in Australian community pharmacist work, particularly around cognitive pharmacy service (CPS) provision, and
(2) adapt the Community Pharmacist Role Stress Factor Framework to Australian community pharmacists.

3. Methods

The COREQ checklist was used to report this qualitative research (see Supplementary material 3).[34]

3.1. Theoretical framework

In organisational theory, “role stress” relates to a *neutral* force or pressure that defines a role such as a pharmacist's, whereas “role strain” refers to the *negative, subjective impact* on an individual caused by a combination of role stresses.[35,36] In turn, “role stress factors” (or role stressors) refers to those features in the community pharmacist role which provide the force or pressure involved in a “role stress”, which include role overload/underload, role overqualification/underqualification, role incongruity, role ambiguity and role conflict.[35] This paper refers to Hardy & Hardy's definitions of these role theory terms when the terms “stress”, “strain”, “stress factors”, “overload/underload”, “overqualification/underqualification”, “conflict”, “ambiguity” and “incongruity”[35] are used, and are available in the coding guide available in Appendix 1.

According to role theory, resolution of strain is not managed by a complete removal of factors causing role stress, but rather is a fine balancing act, through modifying the force magnitude of role stresses/stressors.[35] Thus, understanding what negative outcomes (strain) and positive outcomes (role benefits) apply to pharmacy service provision are crucial. In particular, little work has been done previously to report the positive outcomes of service provision on a subjective pharmacist provider level.

To enable such research, social exchange theory principles can be used to identify and modify role stresses, strains, and role stress factors (or stressors) identified by pharmacists providing services.[1,2,35] Application of a theoretical framework and its implications may allow identification of appropriate interventions and policies at the micro, *meso* and macro levels, which may improve the individual pharmacist's experience of their community pharmacist role, the quality of interactions with health professionals and patients, and support pharmacists' full scope of practice.[35]

The framework adopted in this study is the Community Pharmacist Role Stress Factor Framework, or CPRSFF (Fig. 1),[31] constructed from a scoping review using a framework derived from role theory, symbolic interactionism and social exchange theory. The CPRSFF describes the multiple factors the individual pharmacist subjectively considers while performing their work, and describes the “role system” the person must work within. Since this framework was developed through qualitative studies describing pharmacist work, it has potential in exploring and understanding the experiences of individual pharmacists.[31]

This study was conducted in Australia using online semi-structured interviews. Participants were included if they had been working as registered pharmacists in Australia for at least six months, and had recent experience providing professional services in the community setting (i.e. licensed retail pharmacy stores registered with the Pharmacy Board of Australia). Unlike the USA, Australian pharmacists can be registered after firstly completing a specific Bachelor (BPharm) or Masters of Pharmacy (MPharm), followed by an internship year, which includes completing an accredited internship training course, supervised working hours, and two nationwide exams.[7]

3.2. Recruitment

Participants were initially identified using purposive sampling by contacting community pharmacies that had been publicly recognised through awards for service provision by professional industry bodies (the Pharmacy Guild of Australia, Pharmaceutical Society of Australia and the Australian Association of Consultant Pharmacists). This initial sampling frame was intended to ensure a range of community pharmacists participated. Contact was made via publicly accessible email addresses, and by posting recruitment notices on relevant online social media groups (closed Facebook groups for professional industry members, early career and general pharmacist groups, and free-lance ‘locum’ groups in Sydney and Melbourne as the Australian cities with the greatest populations). The initial purposive sampling group was designed to include those who were enthusiastic in their current pharmacist work, whereas the social media groups tended towards having many vocal participants with neutral or negative attitudes towards the profession. After receiving consent from organisations and social media group administrators, advertisement of the study was repeated periodically from May to September 2019. Snowball recruitment was also used to reach more participants. Recruitment thus continued opportunistically until data saturation was reached, upon consensus of the research team, who met weekly to debrief. Due to the heterogeneity of the target population, a standard sample size of 15–30 participants had been expected to be sufficient to reach theme saturation as there was no stratification of the sample. Participants gave informed consent before taking part.

3.3. Data collection

All data were collected digitally. Prior to the interview, data pertaining to demographic characteristics were collected via a secure university REDCap platform.[37,38] A UK survey identified from the literature was used as the basis for this online survey, since it collected demographic statistics and the participant's current working status, including multiple jobs the individual may hold,[39] and was adapted to the Australian setting by FY (Appendix 3).

The questions in the interview guide were neutrally worded to elicit pharmacist insights on their provision of pharmacy services, rather than introducing a negative workforce strain bias through questioning. The questions broadly asked pharmacists to describe the services they provide, and to discuss their negative and positive perceptions of firstly the services, then their roles as pharmacist service providers, and lastly of their pharmacist careers (see Appendix 4).

Academic pharmacists with extensive experience in the community, hospital and general practice settings piloted the adapted survey and the interview guide. The survey and interview guide were then modified according to their feedback.

Individual semi-structured interviews were conducted by a researcher, FY using online conferencing software (Skype or Zoom). Video functionality was turned off before the interviews and audio recording began to minimise participant discomfort and eliminate a potential barrier for participant recruitment.

FY (BPharm (Hons.)) is a doctoral candidate who is a registered Australian pharmacist, with experience primarily in the community setting.

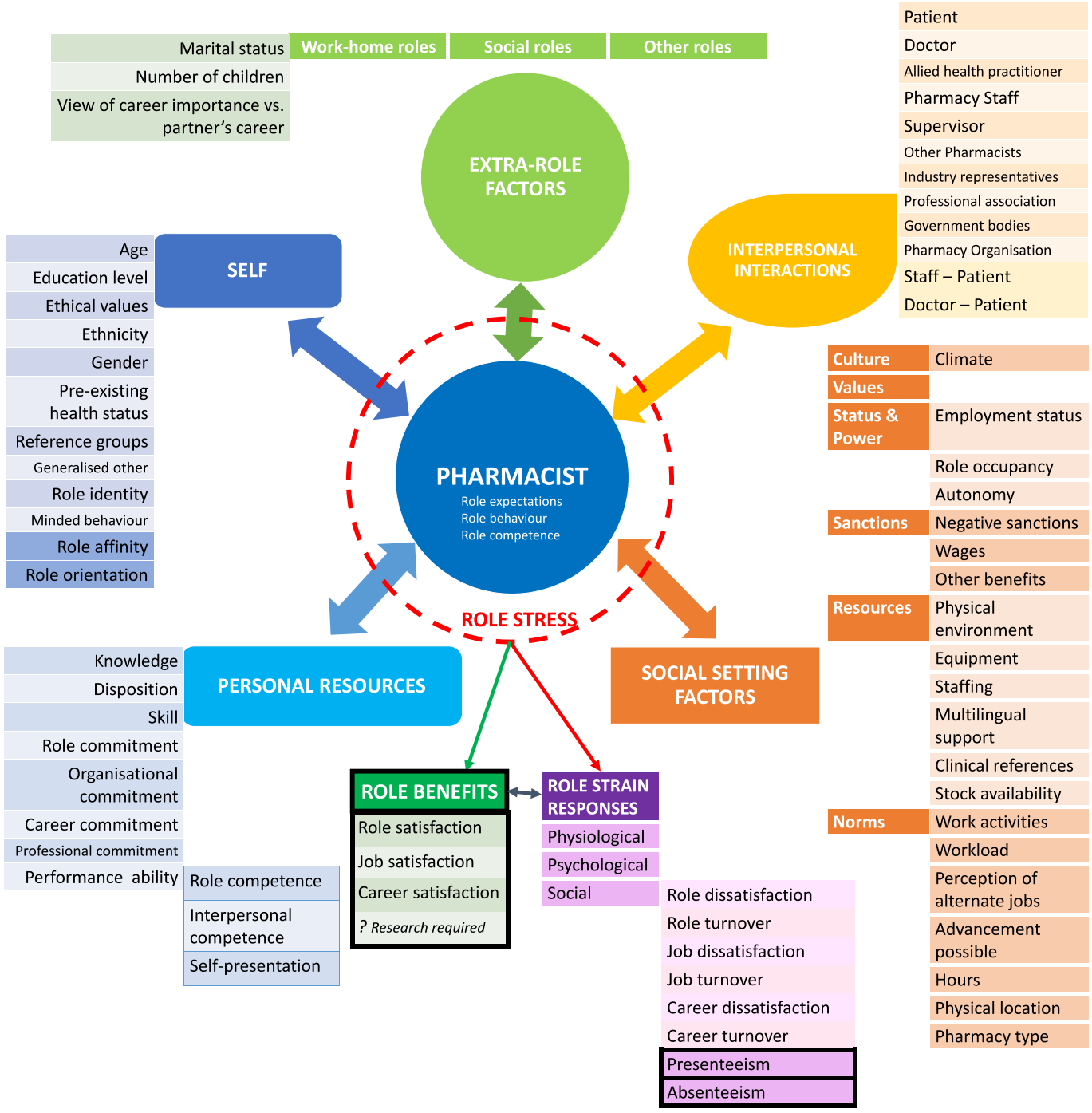

Fig. 1. The CPRSFF[1,2]. This Figure[1,2] displays the community pharmacist role system. It shows categories of role stress factors surrounding and interacting with the pharmacist individual. The dotted lines depict the role stresses that shape the individual's behaviours and interactions within their role, which arise from role stress factors (or stressors) and define the pharmacist role. When these role stresses conflict and interact, this can be a negative experience for the individual, which can result in the three types of role strain. However, positive outcomes (i.e. role benefits) also arise from the combination of role stresses, and may positively affect or balance how the individual perceives their role – not all of these are known yet, and thus have question marks included here, as this paper also investigates this. This concept is central to our exploration of the community pharmacist role, with its demands (role stresses) and outcomes (role strain and role benefits) experienced by individuals.

She works as a consultant and community pharmacist, and was trained in qualitative research methods. Prior to study commencement, this researcher made contact with potential participants via phone, email and social networks to explain the study and arrange interview times. Before the interview, participants were told of the researcher's pharmacist occupation and her aim to explain pharmacist work and challenges in providing CPS through her research. They were asked to speak in the interview as if to a lay audience. Field notes were made during the interviews to aid the researcher in following up on specific points raised earlier. The interviews were kept between 30 and 60 min unless the participant consented to speak for longer.

Audio recordings were transcribed by the research team and/or by a third-party transcription company with a signed confidentiality agreement, then verified by a researcher and the respective participant via email. Recruitment was stopped when theoretical saturation was reached (i.e. no new codes were found).[40]

3.4. Data analysis

FY read through the transcriptions to identify core ideas. An inductive content analysis was performed through coding on NVivo in an iterative and constructivist manner,[41] to explore pharmacist views, insights and meanings of CPS provision.[42] Major ideas were assigned a code to describe its overall meaning, and as transcripts were read, iterative addition and comparison of codes to transcript data was performed cyclically. Codes were adapted, split into multiple codes, renamed or combined with other codes when necessary in this process as transcripts gave further detail, to refine the coding tree.[42] The resulting coding tree, with feedback from two pharmacy practice academics, was then categorised, and has been reported in another paper.[43]

A deductive process was then completed in NVivo software using framework method analysis, applying the CPRSFF.[2,44] To create a whole image of the data, charting was used, considering the range of experiences for each theme. FY compared these results with the previously completed content analysis[40–42] to ensure all codes were also represented in the framework. Where necessary, new factors identified were added to refine the proposed framework, and factors which did not have specific mention in the qualitative data were removed. See Appendix 1 for the framework coding guide.

To further examine the pharmacist perspective, perceived service provision outcomes and the pharmacist identity were analysed to posit major influences in the Australian community pharmacist role system, since there is little information on these.[1] These outcomes were extracted by analysing the following framework codes: pharmacist “Workplace Sanctions” (which include positive and negative domains), “Role strain”, and “Role identity”.

Additionally, themes within role stress codes (role ambiguity, role conflict, role incongruity, role over/underload and role over/underqualification) were analysed to further determine causative factors for role strains in service provision.

Descriptive statistics (e.g. age, gender, education degree, years registered as pharmacist, number of pharmacist jobs, postcode of community pharmacy workplaces) were conducted on data extracted from the pre-interview survey; data were downloaded from REDCAP into a Microsoft Excel spreadsheet, analysed and reported.

The values for two rurality indexes used in Australia, the Pharmacy Access/Remoteness Index of Australia (PhARIA) Index and Modified Monash Model (MM), and the Index of Relative Socio-economic Disadvantage (IRSD) Socio-Economic Indexes for Area (SEIFA) were retrieved for the postcodes provided.[45–47] These were used to compare location rurality and relative population socio-economic disadvantage of the areas in which study participants worked.

This study received ethics approval from the University of Technology Sydney Human Research Ethics Committee before commencement (UTS HREC 19–3417).

4. Results

In the sections below, participant characteristics are described first. Part A then reports on findings from application of the CPRSFF, including: previously unreported framework constructs, differences in the Australian setting, and a re-visualised Australian CPRSFF.

Part B describes the reported role outcomes (positive, negative and neutral outcomes) and role stresses. Descriptions include the positive role benefits and specific details of negative role strains of service provision, and how individuals weighed these up for an overall affect towards service provision. Primary themes of role stresses provided insights into causative factors of strain and role benefits for these participants.

4.1. Participants

Twenty three pharmacists completed both the survey and interview; one completed only the survey (Tables 1-3). There was an even distribution of females and males. Most (65%) completed a Bachelor's (versus Master's) degree in Pharmacy with under half in their first decade of practice.

As described to the interviewer, participants mostly joined the online interviews from their homes, after business hours. A few participants were interrupted by third parties during their interviews (upon which recording was paused) or at the end of their sessions. One transcript was edited by a participant; all other participants returned approval of their respective transcripts. No repeat interviews were deemed necessary, since all participants confirmed they had expressed what they intended to.

The distribution of participants across age groups and state/territory was comparable to Australian pharmacist statistics, with just under half from NSW[48]; there were no participants from South Australia and the Northern Territory. Roughly even numbers of independent pharmacies and franchise or banner groups were represented, with one not-for-profit ‘friendly society’ pharmacy present. Most of these pharmacies were in metropolitan areas, although rural or remote areas (PhARIA 3–6[49] or MMM 3–7[50]) were represented by roughly a third of the participants.

Table 1
Participant details.

Participant	Pharmacist position	Age	Gender	Pharmacy jobs held	Community pharmacy type	Weekly hour total
1	Owner/Hospital staff/Consultant	48	F	3	Franchise/banner	33
2	Owner	43	M	1	Independent	42
3	Owner/Consultant/Hospital consultant	39	M	3	Franchise/banner, independent	48
4	Owner/Academic	42	M	2	Franchise/banner	32
5	Staff	30	F	1	Franchise/banner	38
6	Owner/Owner/NGO convener	38	F	3	Independent, independent	65
7	Owner	62	M	1	Independent	55
8	Casual staff	38	F	3	Franchise/banner, franchise/banner, independent	52
9	Staff	29	M	1	Franchise/banner	4
10	Locum	60	F	1	Franchise/banner	10
11	Staff	25	M	1	Franchise/banner	35
12	Locum	35	F	1	Independent	10
13	Locum	31	M	1	Independent	8
14	Owner	30	M	1	Franchise/banner	58
15	Hospital Staff (former locum)	23	F	1	N/A	40
16	Owner	59	M	1	Independent	50
17	Manager/Translator	31	F	1	Independent	40
18	Staff	45	F	1	Franchise/banner	33
19	Manager	29	F	1	Friendly society	42
20	Owner	35	F	1	Franchise/banner	45
21	*Participant Withdrawn*					
22	Staff/Hospital staff/Casual staff	24	M	4	Franchise/banner, Independent, franchise/banner	49
23	Professional association/staff	31	M	2	Independent	46
24	Consultant/Manager	33	F	2	Franchise/banner	38

Table 2
Location and socio-economic disadvantage.

	LOCATION						
State	Participants	PhAria[1]	Participants	**MM**[2]	Participants	**IRSD/SEIFA**[3]	Participants
ACT	2 (8.7%)	1: Highly accessible	13 (56.5%)	1: Metropolitan areas	12 (52.2%)	5: Least disadvantaged	3 (13.0%)
NSW	10 (43.5%)	2: Accessible	–	2: Regional centres	–	4	3 (13.0%)
QLD	2 (8.7%)	3: Accessible	4 (17.4%)	3: Large rural towns	1 (4.3%)	3	4 (17.4%)
TAS	1 (4.3%)	4: Moderately accessible	2 (8.7%)	4: Medium rural towns	1 (4.3%)	2	3 (13.0%)
VIC	6 (26.1%)	5: Remote	1 (4.3%)	5: Small rural towns	5 (21.7%)	1: Most disadvantaged	5 (21.7%)
WA	2 (8.7%)	6: Very remote	1 (4.3%)	6: Remote communities	1 (4.3%)	No ABS data	3 (13.0%)
		Not given	2 (8.7%)	7: Very remote communities	1 (4.3%)	Missing	2 (8.7%)
				Not given	2		

Interestingly, all socio-economic disadvantage indices were represented, with the highest proportion of these pharmacies being based in the most disadvantaged[47] areas (21.3%) (see Table 2).

Below, Part A relates to the factors in the CPRSFF adaption to the Australian setting, and Part B reports the subjective outcomes of the community pharmacist's role.

4.2. Part A: application & refinement of the CPRSFF

Australian community pharmacists spoke of many different factors they considered while providing pharmacy services (see Appendix 1 for the coding guide). All the factors in the CPRSFF, except one (view of career importance compared to partner's), were described by participants as factors that influenced their service provision; two new factors (Workflow, and Service Quality) were added.

The following section reports the previously unreported categories of the CPRSFF and the Australia-specific CPRSFF:

(1) The role occupant's expectations, behaviour and themes of professional identity;
(2) Additional or missing factors in the Australian CPRSFF; and
(3) The final Australian CPRSFF.

4.2.1. Pharmacists as role occupants: expectations, behaviour & identity

Pharmacists described themselves in several different ways, and their described behaviour was often aligned to these socialised identities in response to the pharmacy environment. As necessary context for understanding self-reported role stresses and strains, the following themes were identified regarding the pharmacist role identity (see Table 4 for a summary, and Appendix 2 for their full descriptions with relevant participant quotes).

Different facets of their professional identity (Table 4) were often referred to as a major rationale for their actions. When these were challenged, pharmacists spoke of distress. When participants spoke of their motivations for entering the pharmacy profession, these tended to be an innate drive to help people, mirroring the "helper" pharmacist identity.

The changing expectations of pharmacists in their professional practice over the years were acknowledged by all participants. The apparent role transition of pharmacists seemed to impact all participants in some form, regardless of their practice characteristics. This transition in what *pharmacies* expected pharmacists to do (i.e. role expectations), however, was not what many participants felt it should be, in contrast to what professional bodies and their socialisation had told them. More senior pharmacists commented CPS had always been undocumented in their workload and thus were not formally acknowledged by stakeholders. The ability to officially document such interactions (through 'Clinical Interventions' or

Table 3
Participant summary.

Male (%)	12 (52.2%)
Female (%)	11 (47.8%)
Education	
Masters (%)	8 (34.8%)
Bachelor (%)	15 (65.2%)
Years since registration	**# (% of total participants)**
0–9	11 (47.8%)
10–19	6 (26.1%)
20–29	3 (13.0%)
30–39	2 (8.7%)
40 +	1 (4.3%)
Years in current job	
1–5	12 (52.2%)
6–10	7 (30.4%)
11–33	4 (17.4%)
Age	
24–29	5 (21.7%)
30–39	11 (47.8%)
40–49	4 (17.4%)
50–59	1 (3.6%)
60–69	2 (8.7%)
Pharmacy type	**#, % of total community jobs**
Independent	13, 46.4%
Franchise/banner	14, 50.0%
Friendly society	1, 3.6%

Table 4
Pharmacist professional/role identity themes.

Theme	Description
Responsible generalist	As a community pharmacist, I am the responsible 'jack-of-all trades' generalist in the store who does 'everything'. I am always keeping an ear out for what is happening while doing several things at once, which can feel like getting pulled in all directions.
Accessible healthcare professional	Community pharmacists such as me are accessible health care providers who are well trained in primary care, and therefore provide as many sorts of services that we can.
Medication expert	As the pharmacist, I am uniquely equipped in the health care system with the capacity to advise others about the safe and effective use of medicines.
'Community guys'	Within my community, as the pharmacist, I am a highly trusted healthcare resource that is a deeply embedded, interwoven and important element of the community.
Helper	I became a pharmacist to help people with their health. I take a caring, proactive role to help patients get better as a pharmacist.
Health promoter	As a pharmacist, I am one of the largest contributors to patient health literacy and medication adherence, and I help keep patients out of hospital.
Retailer	As a pharmacist, I am a retailer. As well as supplying medications, I sell gifts, vitamins and other goods.
Protector (Medication 'safeguard')	As a pharmacist, I am a quiet guardian of the general public's health: I follow important processes and regulations so they can avoid clinical problems such as medication interactions.
Change leader (Transitional role)	Being a pharmacist, I am a leader who implements changes arising from the evolving professional landscape, which has changed from a focus on products towards services.
Workplace role	Employee pharmacist: I am an employee pharmacist, who completes the professional duties given by the employer. My first priority is my patients: independently, I need to assess situations with safety and my pharmacist license in mind. Pharmacist proprietor: As the owner of my pharmacy, I ensure there is a return of investment that pays for rent, my staff's wages and myself in order to have a viable business.

'Collaboration with other health professionals') in the 6th Community Pharmacy Agreement (6CPA) were seen as an acknowledgment of this formerly 'invisible' work, despite the meagre remuneration attached to it. Several participants also spoke of the difficulty of juggling the different roles they played as a pharmacist.

4.2.2. New and missing factors

Two new sub-factors were added to the previous framework under the factor 'Workplace Norms' regarding service provision: namely, 'Workflow' and 'Service quality'.

4.2.2.1. Workflow – additional factor. Previously, workflow was conceptualised as a subcategory of "work activities" within the CPRSSF. However, all the participants described prioritising different activities in response to their environment, and "work activities" alone did not adequately capture this process.

This 'task prioritisation' process was reported as being situational and interactional, depending on: various tasks being performed, pharmacy staff being supervised (and the tasks they were/should be doing), and the patients or other health professionals who needed attending to. This process was also perceived to be greatly influenced by the pharmacy workplace norms themselves, which included how pharmacy staff were trained, worked and interacted with pharmacists, what resources were available, and what expectations existed for the pharmacist in the workplace.

Participant 13 described this prioritisation process as like 'Tetris' or 'juggling' to please different role partners. Another participant likened these work processes to manual car driving and how chess grandmasters can 'play 500 simultaneous games of chess'.

Thus, workflow was added as a sub-factor, to account for pharmacy norms in work prioritisation which underpinned pharmacists' decision-making.

4.2.2.2. Service quality – additional factor. Another factor that pharmacists were concerned about was the level of patient care they could provide in their professional pharmacy services. From their descriptions, service quality was inextricably connected to the normal standards of the pharmacy workplace (including their operational practice and service standards). Most participants did not explicitly refer to the quality of services provided. Yet, this concept of how well services could be performed in a pharmacy, given its normal working conditions, seemed to colour participants' perceptions of their own professional performance (i.e. the professional impact which the pharmacy work conditions afforded them) and thereby their satisfaction/dissatisfaction with their performance and pharmacy workplace (i.e. subjective experience of role benefit/strain). For these reasons, "Service quality" was added as a sub-factor.

4.2.2.3. Missing factors. Among all of the CPRSFF factors, the Extra-Role factor "View of career importance compared to partner", and absenteeism (a social withdrawal role strain) was not mentioned by any of the participants.

4.2.3. The Australian community pharmacist role stress factor framework (Aust-CPRSFF)

The resultant Australian Community Pharmacist Role Stress Factor Framework is proposed below (Fig. 2) in a new visualisation, summarising the data provided above.

4.3. Part B: role outcomes – benefits and strains

4.3.1. Service provision role benefits (positive outcomes)

Pharmacists spoke at length about the positive outcomes of their work, which were said to alleviate or 'balance' role strain. In keeping with their altruistic reasons for continuing to work as pharmacists, improved patient health outcomes and strengthened relationships were reported to be the most rewarding component of providing professional pharmacy services, despite the challenges these presented. This drove some proprietors to innovate and explore methods of better service implementation, advocate for health system improvements in their community, and extend their pharmacy's service offerings. A focus on building patient relationships and patient health outcomes as a way of building community trust or as a differentiating business model, was common to pharmacists working in pharmacies with established extended and enhanced services. The main rationale for such positioning was altruistic, although pharmacy owners involved in the study acknowledged careful planning to ensure there were financial benefits through patient payment, third-party insurance, or government remuneration for providing services.

Provision of services was reported to increase pharmacist competence, performance and service quality, either through training or experience. The addition of services was seen to provide task variety for pharmacists in the community pharmacy setting, which was then associated with greater intellectual engagement and better service quality as pharmacists were more engaged in their work.

Pharmacists recognised that providing services also benefited pharmacies financially. This could enable pharmacies to invest more resources (e.g. installation of equipment for streamlining workflows and employing more than one pharmacist in the pharmacy) for consistent service offerings. These changes, in turn, were reported to increase service quality, which improved patient-pharmacist relationships and increased customer traffic, and increased public recognition of pharmacists as valued health professionals by patients and other health professionals, thus establishing pharmacies as important community assets.

However, this increase in services did not always translate to increased wages, since they were seen as part of pharmacists' jobs, as acknowledged by one participant, who described her pay rise as fortuitous, rather than a given pharmacy response to extra qualifications.

Governmental recognition of pharmacist work through remuneration of clinical interventions and medication reviews was also mentioned positively and frequently: some remarked they had been doing this unrecognised work for decades, despite the lack of financial reward, and were relieved to know that it was now acknowledged monetarily, and that this helped balance their role strains. Recent recognition of pharmacy services through federal remuneration was viewed with cautious optimism by pharmacists as a sign that the profession would continue to advance in contributing to quality primary health care and public health. The prospect of helping a greater number of patients in collaboration with other health professions was highly welcomed by pharmacists, who described this as 'interesting', exciting', 'challenging', 'positive', and 'hopeful'.

Altogether, these factors increased professional satisfaction. One pharmacist reported a renewed enthusiasm for community pharmacy practice when workplace support was available, despite previous disillusionment in another pharmacy. See Table 5 for example quotes.

4.3.2. Service provision role strain (negative outcomes)

Some participants appeared reluctant to talk about the downsides to providing services. However, all role strain constructs (psychological, physiological and social withdrawal responses) were represented, and each will be presented below.

This quote summed up an overall sentiment about healthy work environments, as a principle for better healthcare practices:

> "But people forget, you cannot have patient-centered care… without the providers of those services being looked after as well. Because healthy only provides healthy. Unhealthy can't provide healthy." (Participant 8).

4.3.2.1. Psychological strain. Most pharmacists spoke of psychological strain in some form, highlighting the adverse impact of a highly complex work environment. Most commonly, they reported stress from a myriad of causes, such as an impetus to provide the best quality care possible; concern and responsibility for patient health. They also described the sheer quantity and perceived unpredictability of dispensary workloads; multi-tasking and interruptions; and time pressures. They described conflict between different pharmacist sub-roles (patient advocate role vs. workplace role vs. legal

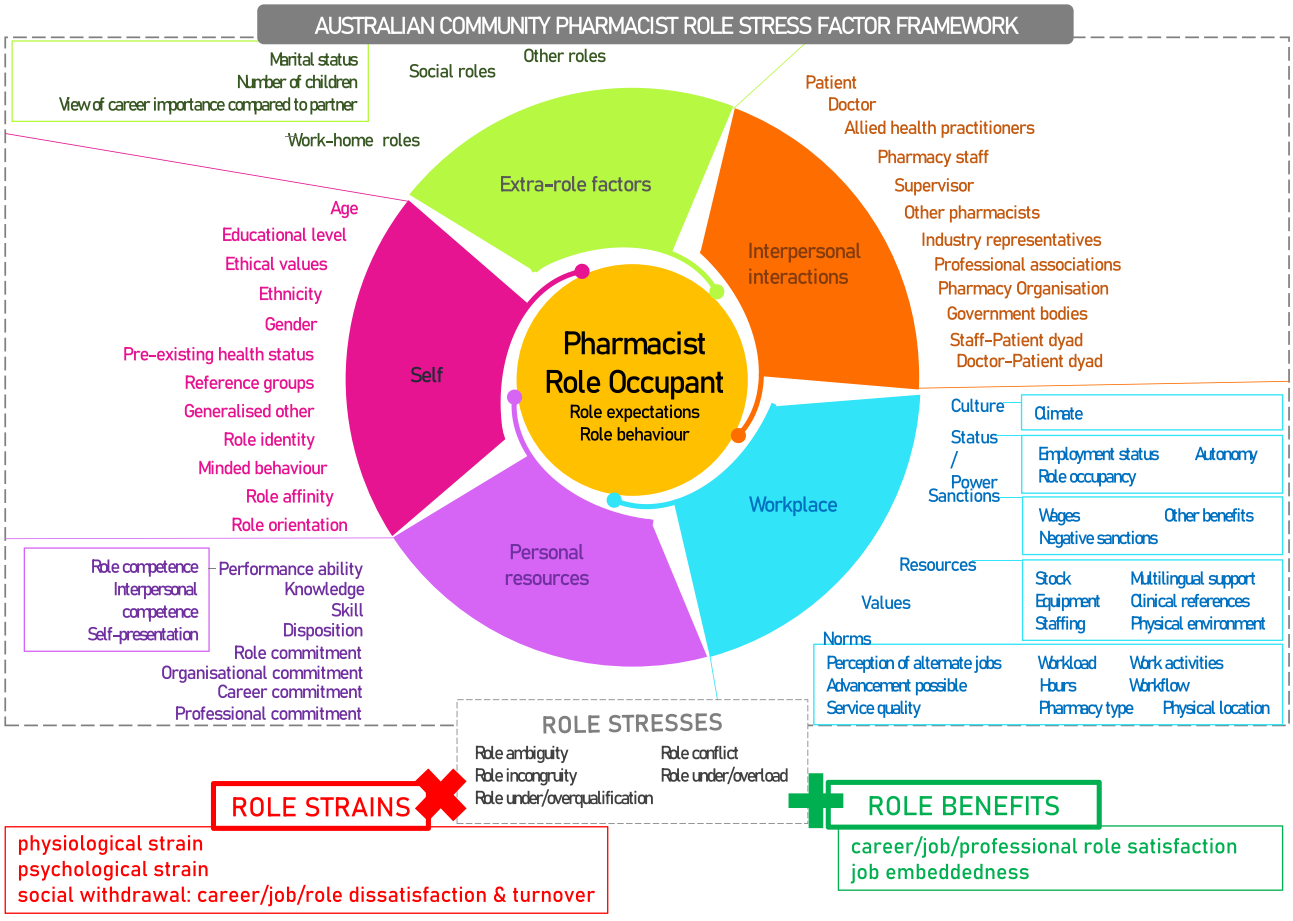

Fig. 2. The Australian community pharmacist role stress factor framework (Aust-CPRSFF) v2.0. Australian community pharmacists spoke of many different factors they considered while providing pharmacy services. This is a new visualisation of the CPRSFF. Further detail about the coding guide is available in Appendix 1.

role in health system), under-resourcing to perform services with burdensome service targets, administrative overload spilling into home lives, ethical dilemmas, aggression/abuse/harassment from patients or other pharmacy staff, proprietor financial pressure and responsibility for store/employees, risk management, and feeling overwhelmed. Pharmacists described burnout due to difficulty taking leave in remote pharmacy locations, long working hours, difficulties employing pharmacists to their workplaces, and extra-role responsibilities. Although there was optimism that a previous under-appreciation of pharmacists may have changed recently, pharmacists also spoke of a lack of recognition from patients and supervisors. This, coupled with the fact that much of pharmacist work is unseen, seemed to cause much frustration for pharmacists.

Pharmacists reported it was difficult to provide services in addition to "core income" activities (i.e. dispensing, counselling on prescription and

Table 5
Role benefit quotes.

Themes	Example quotes
Altruistic reasons	"I guess, at the end of the day, when you think about what you've done for the day, and there's times when you know that you've been really able to help someone, and that might be just really really simple, when you think about it. I feel like I do something good today. And it wasn't just that I went to work, I did my job, and I came home. I think that's, for me, that's really important." (Participant 4) "But services, for those people, they're so grateful. You know, for them, it's something that I've done for them that is so valuable. So yeah, it's, it's very rewarding in a way that dispensing prescriptions isn't. And it creates relationships with customers that dispensing prescriptions doesn't. And it's the only thing that I've found that will make people come back to you regardless of what you're charging. Like, you know, because it really gives you that opportunity to sit down with people and go through things with them, and they get to talk to you, and you know, you get to develop that relationship." (Participant 18, staff pharmacist)
Increased competence and performance	"Well professionally it is good, in the sense that if you - because I get presented, as I feel, of a range of things, you realize where your - your lack of knowledge is, that it kind of guides you, I guess, as to where you'd need to maybe brush up a little bit individually. And that interaction is, I guess, a combination of being in a smaller rural community that you do tend to get to know people a bit more so." (Participant 2)
Financial organisational benefit	"Because I was, at the time, advocating for more money - my, my goal is that I should be able to hire a second pharmacist. That - that would be fantastic and we can do a lot more clinical services. … I would like to see remuneration, because I do think that we could do more." (Participant 2)
Recognition	"Because ten years ago we didn't have all the services that we now. And I feel that is a drawcard. And I feel that like, now that we're on this path, it will only get better." (Participant 18) "I can see that there is more trust from the public for us, and that is in the healthcare industry, that people recognise us pharmacists could do so much more. And that, that would represent that to me." (Participant 22)
Professional satisfaction	"And of course at the end when the person, when they come back, when you see visually, you can see and hear their condition improve. And knowing that you had a proactive role in achieving it. That satisfaction, as part of professional duty, that is the single - that is the single most important deciding factor for me. That's of value to me, as a professional, as a pharmacist." (Participant 13)

over the counter medicines). It seemed that service delivery required pharmacists to leave the shop floor, which meant services could not be multi-tasked from within the dispensary environment where they were supervising front-of-store activities. This caused angst and negative feelings towards providing services since leaving the dispensary was not always possible. Some individuals admitted they had thoughts of ignoring or rejecting any service requests, as this was seen as more acceptable to the organisation than rejecting traditional "core" services. This was complicated by the fact that pharmacies, rather than individual pharmacists, are typically paid for services remunerated by the government. Individual pharmacists do not receive any financial or organisational reward for providing services. These services were instead described as "additional", "extra" or "non-essential" to the pharmacy's operations whilst also increasing pharmacist strain. They were therefore sometimes considered as lowest priority, and disregarded. One employee pharmacist displayed resentment towards proprietors challenging their professional autonomy about such choices. Under-resourcing, dispensary work overload and the resultant strain of handling these, caused pharmacists to be apprehensive about actively providing services, although individuals approved of CPS conceptually.

4.3.2.2. Physiological strain. Although not often mentioned, physiological strain was reported by a small number of pharmacists. One example of physiological strain mentioned was pain that pharmacists described as caused by the physical demands of normal working conditions (which require pharmacists to stand for long periods of time) as they grew older.

4.3.2.3. Social strain withdrawal responses: dissatisfaction and turnover. Some pharmacists explicitly talked about job dissatisfaction, staff turnover and presenteeism (responses wherein individuals withdraw from their workplaces socially), and are elaborated upon below.

4.3.2.3.1. Dissatisfaction with job, role, sector or career. Dissatisfaction was caused by incongruence between what the pharmacist was actually doing, what the pharmacist wanted to learn/do, and/or what they had been trained to do. Dissatisfaction was also caused by: the inability to focus on one task due to ever-changing work environments, pressure and verbal abuse from role partners who often misunderstood pharmacist roles, low wages, legal limitations preventing pharmacists from proactively helping patients despite the knowledge to do so (e.g. Participant 16 spoke with frustration of having the knowledge to treat simple urinary tract infections but not having the legal authorisation to prescribe antibiotics), stagnation of careers in settings where shopkeeping tasks are primarily required, and insufficient remuneration for provision of pharmacist services to under-resourced populations (e.g. indigenous populations, low health literacy groups, low socio-economic communities).

Poor working conditions and management featured in the descriptions of those working as employee pharmacists: one reported dissatisfaction at being treated as "labelling machines" (Participant 22), and some others remarked on a lack of recognition of working challenges by their employers who were described as not providing sufficient resources, planning, training or staff to support the provision of quality services – and yet set unrealistic service targets, knowing that service quality would be compromises in order to achieve these. These employee pharmacists pointed out that such overload could be alleviated by employing additional pharmacists, though they understood employers' challenges in the context of limited remuneration and funding streams. Still, many participants were frustrated by the lack of innovation or investment into better service implementation, which they believed patients needed.

Both employees and employers agreed that pharmacist pay was insufficient, as a flow-on effect of governmental remuneration, which has been eroded over the years, with limited funding support for some of the newer services. Several participants also discussed the implications of this monetary insufficiency with regards to ensuring sufficient pharmacist numbers for the provision of new services.

4.3.2.3.2. Turnover or withdrawal from job, role/sector, career. Organisational pressure to decrease pharmacist work quality, or a lack of innovation in services, was also associated with turnover, the uptake of casual employment, withdrawal from the community sector and, at times, leaving the profession (i.e. career turnover). However, for one pharmacist, their negative opinion of their career was reversed by working in a different supportive pharmacy where managers supported the quality care of patients and CPS provision.

Apparently, reports or experiences of truant organisational behaviour by other pharmacists and pharmacies (e.g. inappropriate medication supply, low quality services delivery, insufficient pay for increased responsibilities, organisational disregard for pharmacist autonomy) caused negativity about the future of profession in a few participants, who then contemplated job, role or career withdrawal. To make sense of these differing pharmacy norms, pharmacists categorised pharmacies according to different working philosophies and values, and used these to rationalise their job choices or adapt their personal professional practice.

4.3.2.3.3. Presenteeism and absenteeism. Presenteeism was reported by study participants, where they worked with: (1) migraine pain although they had difficulties speaking clearly, (2) dizziness and lightheadedness associated with hunger and no designated lunch break as a 'sole' pharmacist, and (3) pain caused by the need to use the toilet. Absenteeism was not mentioned.

4.3.3. Overall neutral affect towards service provision

Many participants expressed having an overall neutral feeling towards CPS delivery. This was usually accompanied by an explanation of the negative and positive aspects they had weighed up to reach this conclusion. Some had pragmatic reasons, such as strain being 'part of pharmacist life' or the belief that any job had positive and negative aspects. Other beliefs included the following: adoption of advanced or extended pharmacy services ensured future pharmacy viability, and that neutral or positive pharmacist service affective orientations were necessary for adequate service quality.

4.3.4. Role stress types

All the role stresses were mentioned at least once. Of the role stresses, role conflict, role overload and role incongruity were the most commonly present. These were not always associated with service provision solely, but were described as being present in the broader working environment.

4.3.4.1. Role conflict, overload and incongruity. Both role conflict and overload were often mentioned together. Role overload appeared to be endemic in the complex community pharmacy environment, and was reported as a major cause for psychological strain. Role conflict appeared to worsen with increased role overload, which was associated with 'excessive' 6CPA documentation and tasks required for claiming government remuneration. In response to role overload, pharmacies that had routinised service provision had increased the number of pharmacists rostered on and had established private counselling rooms, recognizing that pharmacists would be stretched thin running the store and providing CPS. Nevertheless, some described a desire for role specialisation or wanted to establish a specific pharmacist role for professional services.

Role incongruity often overlapped with other role stress types such as role conflict and overload, which made their discussion about it complex. Role incongruity was often mentioned by those employees lacking the power to influence pharmacy operations, or those proprietors faced with limited remuneration streams. This included:

- Personal dissatisfaction with the standard of service quality that pharmacists could provide, given the circumstances
- Conflict with personal expectations of the pharmacist profession, and reality:
- Incongruity with others' perception of the value of the pharmacist's role:
- Incongruity between professional and personal values:
- Incongruity with pharmacy organisation norms:

4.3.4.2. Role ambiguity. Role ambiguity was reported more often by proprietors and managers detailing efforts to implement services within legislative limitations. Rather than describing their difficulties with

implementing services, participants believed it was up to them to figure out how to do this, regardless of perceptions about their ability to do so. Most employees describing role ambiguity, on the other hand, were expressing frustration at employer restrictions and their unsatisfactory power to implement quality services.

4.3.4.3. Role underqualification, overqualification and underload. Participants expressed a need for specific training (i.e. pharmacists were currently underqualified) to provide pharmacy services at an appropriate standard of service quality, particularly on-the-job training. Participants pointed out that the ongoing role transition and limited tertiary training meant that specific credentialed training was necessary and should be welcomed by older pharmacists and proprietors. However, training might be associated with negative feelings, especially as it could be time-consuming. Although largely unmentioned, it was implied to be completed outside working hours. While some mentioned employers paying for pharmacist training, it was implied that this was unusual in the sector.

At the same time, some pharmacists stated they were overqualified for the solely purpose of product supply or dispensing activities. Such expressions were often coupled with statements of cognitive underload, where it was implied the participant would be bored if they were solely limited to such 'stale' and 'monotonous' repetitive tasks.

Prospective or actual quantitative underload (i.e. insufficient foot traffic into the store and the work they brought), too, was mentioned by more innovative proprietors, some of whom had therefore invested in service implementation as a matter of survival rather than of choice. Government-mandated "price disclosure" decreases in the price of medications (a benefit to patients and the health system, to the detriment of pharmacy businesses) were often cited as underpinning the non-viability of previous pharmacy business models. They explained that government remuneration in the past for dispensing services had been sufficient to cover the gratuitous services accompanying dispensing activities (e.g. medication counselling, pharmacist triaging of minor ailments, and clinical interventions). These self-labelled 'early adopters' felt it was ultimately necessary to invest in service provision given the significant changes within the Australian pharmacy landscape. In addition to changing business models, the rise of discount chain pharmacies had framed pharmacies as a retail destination rather than a health services hub, and investment into the provision of services was a key strategy used by these participants to rectify their quantitative underload.

See Table 6 for participant quotes by section.

5. Discussion

This paper explored the self-reported effects of CPS provision on community pharmacists in Australia. Interestingly, our findings suggest that pharmacists saw their performance and working conditions through the lens of the professional pharmacist identity, including: the pharmacist work strain caused by CPS provision; prohibitive financial and personal costs associated with successful implementation of quality CPS in some communities; complex, unseen aspects of pharmacist work in the Australian community sector; and what was viewed positively in CPS provision. These will be discussed in detail below.

For some pharmacists, work strain appeared to be directly caused by viewing the delivery of CPS through a professional identity lens: the increased administrative burden, and insufficient resourcing for remote and low socioeconomic areas was reported to worsen overload and frustration. This frustration, in turn, seemed to be about how pharmacists could not help clientele as much as they desired. Similarly, positive outlooks on providing CPS were about their ability to help their client base, since they had found a way to provide them in a financially viable way, through investment in various methods to trial and sustain CPS. Further, their perception that CPS offerings increased recognition of pharmacists as health professionals, and advanced the community sector (if not the pharmacist profession), were about alignment of practice with the health professional identity.

As mentioned earlier, for low socioeconomic or rural and remote areas, the costs of CPS provision investment were reported to be higher and thus prohibitive; there is evidence for higher caseloads per individual with these populations.[8,51] These limitations were apparently worsened by a reported pharmacist shortage, which participants said were caused by pharmacist strain. It is possible that norms of workforce strain in the pharmacist workforce, and associated losses in productivity, are related to difficulties hiring pharmacists; despite previous reports of pharmacist oversupply,[48,52] a shortage in pharmacists can be confirmed by Australian government statistics during the study period.[53] For example, participants in this study reported presenteeism behaviours, which is classified as a social withdrawal response to strain (i.e. working through sickness). Presenteeism in pharmacists is associated with increased error rates, anxiety and depression.[54,55] There may be a negative cycle of workforce shortages and decreased productivity caused by strain (such as presenteeism), occurring in the Australian community pharmacist workforce. This suggests pharmacist strain and its mitigation should be taken seriously by the entire sector.

In regards to the similar social withdrawal response, absenteeism, it should be noted there is a different pharmacy-specific definition in developing countries (i.e. the absence of a pharmacist working in an operating pharmacy).[56,57] However, this paper takes the definition of absenteeism in organisational theory (i.e. employees taking absences rather than working their normal shifts).[36,58] In this study, absenteeism was not mentioned by participants, regardless of their status in the pharmacy. One study suggests that full-time registered pharmacists have much lower rates of absenteeism than student interns, part-time or contract workers,[59] and another reported presenteeism was more prevalent in UK pharmacists than absenteeism.[54,55] However, pharmacist absenteeism was associated with the frequency of violent events encountered in a pharmacy during an Irish study.[60] It could be that pharmacists as a population may not have high absenteeism rates when compared to corporate workers, much like pharmacist turnover intention is not highly correlated with actual turnover.[61–64] Perhaps the pharmacist identity and their reported motivation to help people through their work predisposes pharmacists towards presenteeism, rather than absenteeism (as with other healthcare workers).[54] As speculated in another paper, it may be inappropriate to treat pharmacists (and other health professionals) like corporate workers.[1]

Pharmacists described their working environments as being multilayered, involving complex interactions, with work cognitive processes that are difficult to observe by a third party. There may be emotional labour involved in hiding these 'detailed' work processes to present a professional image to patients,[36] given the sheer quantity of factors that pharmacists reported to affect CPS provision.[2] A lack of consideration of this labour could be why CPS provision is consistently lower than expected in Australia and internationally.[16,29,65] Various studies in the US and the UK have shown community pharmacists have a large mental workload, particularly due to monitoring demands.[16,29,66–69] One of these mental processes was task prioritisation, which every participant in this pharmacist sample reported. Being dependent on the pharmacy norms, this adaptive behaviour in task prioritisation may explain previous difficulties in typifying pharmacist work behaviour according to intention[27,70–72] or working orientation.[73–76] We consider that mandating particular values and norms on pharmacies, which operate as small businesses in Australia, would not be helpful. Instead, a more comprehensive understanding of pharmacist behaviour may require further investigation into professional identity to understand how to structurally support role transition on a pharmacy and sector level.

The majority of benefits pharmacists received from their work (altruistic reasons, increased competence and performance, recognition from health professionals and general public) seemed to be related to the pharmacist's professional identity and values. Even financial organisational benefit could be related to the pharmacists' managerial responsibilities of keeping their pharmacies viable, which would enable them to service their surrounding communities. Perhaps, job embeddedness for pharmacists of high professional commitment could be related to reinforcement of their professional identity: e.g. a supportive work culture which enables pharmacists to provide clinically-oriented services or spend more time with

Table 6
Participant quotes.

Section	Theme	Quote
A1. Pharmacists as role occupants: Professional identity quotes	Distress	I think I would feel more stressed if I felt that the patient left and the problem wasn't really solved. Because… pharmacists, you know… 100% ideal – but… when the patient leaves, they should be able to use medications safely and effectively. (Participant 2)
	'Helper' pharmacist identity	…I want to help people, because that's why I did pharmacy: to be a professional and to offer a service, and help people understand their illnesses and their medications. (Participant 16)
	Role transition	I think obviously, as it's been told many times, pharmacy's in a transitional phase. So I think we're in a position where we can make a lot of positive impact. But, I don't know, people have gotta, I guess, have a bit of courage and not be too scared of, I guess, trying something different, than persevering with it - because it's not just, I guess, us which are hard to convince, but the wider public. (Participant 11)
	Incongruent role expectations	And we thought, you know, you're gonna be using all your clinical knowledge and you're going to change the world. And disappointing to know that, haven't changed as much as we'd like to. Still rewarding. But yeah. Yeah, you sort of feel like your skills are wasted, when you're, you know, having to catch a 15 year old who's shoplifted a mascara. You're sitting in the back office accounting tills when someone else could easily do that. Yeah like that. I can't. I think you feel like your skills are not being utilized to the optimum. (Participant 5)
	Perception of pharmacist work being acknowledged through formal Community Pharmacy Agreements	I am really glad for the work that has been done towards formally recognizing the sort of services that community pharmacy do, in things like HMR [Home Medicines Reviews], Medschecks and diabetes checks and all of the other ones. I feel - I feel bad that community pharmacy spent so long doing those services for free. And to a certain extent we still are doing lots and lots of very very valuable things for free. (Participant 6)
	'Juggling' different pharmacist roles	…you've got that person that's doing the - not managing, but you know, that sort of pivotal role there trying to organize all these things, trying to make sure that everything keeps happening and working, and still, because there's such a need for their clinical expertise, they're still trying to do their normal clinical, you know, community pharmacist role, […] as well as doing all those things? And it can be - can be quite challenging. (Participant 4)
A2. New and missing factors	A2.1 Workflow: the need for prioritisation	…in a community pharmacy, the work – the workflow is pretty dynamic. So basically, there's – there's, you can actually deal with quite a few things at the same time. So, so, the workflow that we're referring to is, for example, the people coming in for, for primary health inquiries, S2/S3 services, dispensing – that's already the workflow, and in general, it's regular but it's unpredictable. Well. If you know what I mean. So actually sometimes you can get a bit of quieter days, sometimes you get quite busy days. So that is part of the workflow, and, um, the time that you use to dispense, to, to check medication histories, and things, things like that, it can be part of the workflow. "Another part of workflow? Medschecks and, and scripts out, and things like that, it will be another workflow. Also, plus during the time when you process the prescriptions, if you find any of the issues, when you try to – when you try to contact the doctor, other things, then you brainstorm the solution and try to fix that, and things like that, that, that, that is an extra bit of time that you need to do that, so it's another workflow. "So it's a blending of all these things, and it, it's pretty dynamic. So, so, you can't really – sometimes you can't really predict how much time you need to do these things. Plus, plus quite often you have people's expectation about, about how long you actually need to, you actually need to service them. So, so, that would actually affect your priorities and things like that. So basically you juggle with workflow and the time constraints." (Participant 20, pharmacist owner)
	A2.1 Workflow: prioritisation as a competency	You know one of the things that people don't appreciate, you know, when they - I think, when they do work-based research, is the extent to which you get good at things. […] "They'd be saying, 'Oh the pharmacist glanced at the prescription and stuck a label on the box, then handed to the patient, and said, you know, had a, had a very brief interchange' - and, and, you wouldn't see it as something clinical at all. But what in actual fact he did, was that, you compared the label that you had in your hand, that you're placing on the, on the packet with the original prescription, and in doing that you did, you did three separate checks: […] accuracy check, and […] using scanning, you know, have I put the right label on the bottle and all of those sorts of things? And then you, then you, if you're me, you know, you're at the screen and you go Alt + Tab and see the patient's history, and you sort of take that in and you do a sort of, you know, clinical appropriateness check. And then, and then you go out, and you have this very nuanced discussion with the patient if it's a new medicine. It might, may be a patient you know well, you may not need to ask them if they've ever had it before - because you've known the person for seven, eight years and you can actually recall out of your own head what medication they're on. And, and it's actually all very skillful, and it's all very very sophisticated, and it just looks like you're doing nothing. And, and you know, as for some of us, it's taken us a very long time to arrive at a point where we can sort of do that relatively effortless, effortlessly. It's the same with, um, you know, with, with a hundred different things that we do. It's, you know, you're actually doing something, and in some cases, you know, doing a really sort of complex process or several complex processes in close proximity to each other, that it would be impossible for a researcher to tell what you are actually doing. Because, because you're doing it in the same way that the chess grandmaster plays chess - you playing five hundred simultaneous games of chess. (Participant 13, owner)
	A2.2 Service quality	When I offer a service to a patient, I would think about how much value it would bring for both the patient and the business, but it is very hard sometimes to find the right balance. Ideally you would hope that you can improve patient's health and also make money for the pharmacy, but in reality, depending on which type of pharmacy you work at, you would have to make compromises. For example when I work at those big chain discount pharmacies, I would get the pressure from the employer or manager that I can only spend no more than 5 min on counselling or even Medscheck, for example. (Participant 22, staff pharmacist)
B1. Service provision role benefits (positive outcomes)	Balancing role strain	[…] but that feeling, that good feeling that I get from using my knowledge to help them be healthier, be happier – that overrides the negative feeling. (Participant 15)
	'Services' being worthwhile professionally	Professionally it's worthwhile. Like you can see you can make a difference with that. […] So I find that very rewarding in helping people get better health outcomes, because in the end, you support the community as a whole. […] I'm fine with service provision […] Yeah, I just see it as a positive thing because I like to do the more clinical stuff, and I believe that that's where we help people, not just throwing medications over the

Table 6 (*continued*)

Section	Theme	Quote
		counter, saying, “Here, take that.” You're actually – if you explain how to take it, why to take it, what to look out for, you also give people knowledge which is not Doctor Google on how to handle things. (Participant 1)
	Patient outcomes visible to pharmacist	Obviously seeing the results of like, I said, like improvement in patient's quality of life, definitely develops your relationship with your patients as well, in a positive way. Obviously builds trust. Um, sorry, it's not just good from that one aspect of that's - that providing that service. But it's also good, just in general terms as well. Your patients do trust you a lot more in terms of everything else. Given that it's hard enough to see a GP in town, you know, sometimes next day, sometimes your appointment would not be for weeks, and then you are obviously their next port of call. (Participant 14, pharmacist owner)
	Altruistic reasons for providing services	The fact that we get good health outcomes: if patients choose to take up our advice, or choose to participate in the service. Sometimes the outcome of the service is nothing: meaning that, you know, there's no change. Because if they know, it has to be a positive thing. You know, it might change. So that means if you are still healthy that's a positive. (Participant 8, locum pharmacist)
	Improving pharmacist competence	In that way I find it really positive to do service provision and the teaching you get in connection with it, because you get better at explaining things, that you look into more things, makes you a better pharmacist. (Participant 1)
	Financial benefit to pharmacies	So I think that the services can give the extra foot to the pharmacy. It's like having a connection with the patient, being able to be the one stop shop where you can provide all the advice that they trust, in a quick manner. So that financial element of it. The other part, which is the part that I enjoy, and that I love, is making a difference in patients' lives. And being able to be the first point of reference. (Participant 24, second pharmacist)
	Service quality improved patient relations	But then the other component was service provision. So really contributing to patient health outcomes and contributing to their medicine, medication management - I personally found a value because I do want to be more than just a dispensing pharmacist. So - and you also create, you know, the more services you provide, you create trust and credibility to your patients, and in turn loyalty. So that was a bigger factor than the financial reward. (Participant 12, locum pharmacist)
	Increased financial benefit to pharmacy not necessarily linked to increased pharmacist wages	With my [vaccination] duties last year, I asked for a pay rise and luckily I got one. So having an extra skill, I think, merits that. Also because you have to do like your first aid, you have to do your CPR. There is a whole lot of paperwork associated with, with certain things as well, which sometimes you have to do outside of your work hours. Because being a pharmacist, you're not just a pharmacist, you're also the manager on duty for the night. You're also the security guard that's walking around the store. You're also managing staff. You're also making sure the tills are correct for the end of the night. You're like - you're not just a pharmacist! (Participant 5, employee)
	Government recognition of pharmacist work through formal remuneration	If those roles, if they allow us to do prescribing, if they… give us more money to do screening, or investment incentive for pharmacists, that is in a way telling us that, “Yes, we do think that your job is important,” and, and, you know, that is important to me. (Participant 22)
	Renewed pharmacist enthusiasm	I suppose I might have moved onto a different sector, or even I suppose, just quit my occupation. Because you know, what's the point? I can't do what I want to do. I like to practise professionally, but I also want to have more challenges. And, you know, be rewarded in a way? So, but, you know, but all is good now. I'm glad that I have found a pharmacy that is, that, that is allowing me to practise professionally, but also being very friendly and supportive. (Participant 22)
B2. Service provision role strain: negative outcomes	Psychological strain in a highly complex work environment	[…] personally I guess just get more tired and exhausted and more tired and exhausted. It's like I wouldn't say I compromise anything nor cut corners, but it's just that it pays a heavy toll if you're doing it full time. But even when I was full time I wouldn't, I wouldn't say anything affects my practice. It just, it just kind of wears on you. It just makes you more tired, maybe wears you down a little bit emotionally. (Participant 9)
	Psychological strain from duty of care	But you know, what if that person ends up being one of the dead people? Well, you know, that there's a higher chance that they will, because they live in a remote rural area. And if they do have that life threatening attack, you know, they're less likely to get care in a timely way. And those sorts of things - they, they weigh on you. You know, in the first instance, they sort of weigh on you psychologically. Part of it is - you can't just sort of worry about it, do nothing, you know. (Participant 7)
	Psychological strain: the unpredictability of workload	Where a lot of frustration is - I guess the downside to being a manager is most often, your attention will have to be split. You have to be acutely aware of what's happening in the pharmacy, acutely ready to solve problems that come up during the day. It's what I call the “put out fires” - so kind of like a firefighter, you're so busy putting out the small fires, you aren't able to focus on the bigger ones. That's because in the community where [in] a day anything can go wrong, basically anything can go wrong, at any point in time. So you have to be as ready as you are, as organized as you are. There is no guarantee that a day will go according to your help. (Participant 13)
	Balancing personal strain, supervising responsibilities and duty of care	It's a fine line in pharmacy, and looking at, I guess, when does that become a point where it impacts the quality of what you're providing to your patients and community? And when does it become too much stress, and too much of a workload for your staff? So it's difficult. And yeah, I can appreciate it, that that's not an easy job to do. (Participant 11)
	Burnout	[…] and the lack of […] pharmacists in general, but lack of the ability for a pharmacist to have an afternoon off easily, or Saturday off easily if they've got something on in a place like [Major Remote City] - it sort of, that, you know, they sort of burn out really really quickly, probably, more than anything. (Participant 4)
	Under-appreciation of pharmacist work	I have had certain scenarios when I've had patients be very, very rude to me, very aggressive, very degrading. They've made me feel at times like, my four years at university, my year of internship, my study, my exams didn't - didn't mean anything? Because they were so unappreciative of the advice and care that I was trying to provide. And you know, that's made me feel horrible at times. (Participant 15)
	A heavy burden to provide services as a sole pharmacist	So pretty much everything in the pharmacy stops, unless the pharmacist's there. So then, again more pressure! Like, running to the bathroom! Yeah, so all those things sort of add to your daily stress levels, I guess? And then sometimes you think, ‘Okay, do I really want to provide the service? Takes up so much of my time. I could just continue to just supply the medication.’ (Participant 5)
	Usual multi-tasking from dispensary not possible while providing services	I guess for that, particularly for Medschecks is that, you - if a pharmacist is devoting their time for, whatever it is, say 30 min, three quarters of an hour, to sit down with someone, you know, in a proper counselling room, then they can't be doing anything else in the pharmacy. And so if someone brings in a prescription during that time or comes in for a OTC medication, that person can't be served because you can't be interrupted while you're doing your Medscheck. (Participant 4)

(continued on next page)

Table 6 (*continued*)

Section	Theme	Quote
	Resentment when proprietors did not respect pharmacist autonomy	Well, you know, pharmacists have their – it's their license, you know? They have the right to believe what they want to believe. And if they're not satisfied with the patient's response about certain medications, they are within their rights not to supply it. It's not up to the boss to, you know, you know, give them some kind of passive aggression, force them to give it out? But I do witness these – I did witness these happening in the past. And I do think that's very frustrating. (Participant 22)
	Perceptions of services being 'additional', rather than key to pharmacy business	So the thing is that if we're not adequately staffed, we struggle to maintain services to a point where I've had that day… and I say, 'We aren't able to have vaccinations today.' … Because your core business in the current model is still the scripts. So, essentially, you know, if you can't vaccinate, if you say no to vaccination, you're not going to have people standing around the store getting angry, waiting. (Participant 18)
B2.2 Physiological strain	The physical toll of working as a pharmacist	And I have to do more walking, more talking, more doing things by myself - I'm physically exhausted. The other thing is also, working by myself, because they're cutting number of staff. I don't know if you're going to put that into research, but I can't go to the toilet properly. …So it's affecting my physical health. The other thing is I can't have my lunch, [Researcher]. My lunch is eating a sandwich over a four hour period, because I work by myself. So even if I want to provide service - even if I want to participate in service provision of some of those things, I can't do it lightheaded and feeling sick. (Participant 8)
B2.3.1 Dissatisfaction	Incongruence between tertiary education and professional socialisation	…in pharmacy school, they didn't tell us that we'd be responsible for all these other things retail, like we do. … I kind of felt like, if I had known these things before, maybe I would have opted out for a different career. … I just feel like something needs to change in the industry, because a lot of people are sort of opting out, because you know, you work so hard for five, like four years: you do your Bachelors [degree], then you do your internship, you have to keep up with your CPDs. … And then afterwards if you're not really getting remunerated enough, or you're not getting the satisfaction - that is why I find a lot of people going out of it. (Participant 5)
	Perception of being poorly understood by pharmacy owners and managers	Sometimes these owners, or even pharmacy managers, they don't spend enough time with us to know our pain? They would go "Oh, how hard is it to do this?" And you know, you don't understand because you never work with us. You just think about your targets. To the point where I would think, you know, 'It's not worth it for me to work so hard… my license is on the line, because I'm the provider, right? But you don't actually bear any responsibility. If an audit were to be conducted, right, I'm the one who's going to have trouble.' […] But I didn't do much of that though. Because I didn't agree with what they do? So when they asked me to do [low quality services or tasks perceived as unethical], I would rather, you know, disappoint my employer. (Participant 22)
	Insufficient pay	If the pharmacy can't afford it, then it's not viable, because the money that you put towards that wage of a third pharmacist, for example, might mean that you can only - you afford less stock in, which would affect what - what supply of medications you can offer patients in that area. It might mean you lose a technician, or you lose a naturopath. Or you lose another staff member that can offer your patients a particular service. So sometimes - it's not viable financially often to hire an extra pharmacist, and sometimes, as well, if it's a pharmacist specific job, you require the knowledge and training of somebody who has a pharmacy degree, who's done an internship to do that job. So you can't use necessarily all the other staff members. You can, certainly, for some tasks: you can certainly have your technicians assist you, but for some tasks, that's not possible, and you just have to work - do the best that you can, in the time that you can, and it can be really challenging. (Participant 15, employer)
	Inability to employ more pharmacists for service provision due to monetary insufficiency	Because like if you as a pharmacist, if you are offered the award rate, you're not paid much more than the one who could sit on the cash register down at the supermarket! Well that's not exactly something that inspires people to come and work… (Participant 1) […] the remuneration, I find, is not really covering the cost of doing [CPS]. (Participant 1, employer)
B2.3.2 Turnover or withdrawal	Casual working as a way to escape pharmacy working conditions	Working as a casual at a pharmacy gives you flexibility. Like when you don't like this pharmacy, you don't like how they set goals for the pharmacists and culture there, you can decide to go away, or just say, I don't want to do this anymore! (Participant 22)
	Truant organisational behaviour causing pharmacists to leave	[…] people who are employing: they get, they get the biggest say, because it's their pharmacy and I respect that. If you can't provide services in a certain manner, then people walk. And that's why you've got, you know, 'factory' pharmacies, where pharmacists change every five minutes. Factory pharmacies: those are pharmacies what churn pharmacists that do not have systems in place where they aim for the lowest denominator - the almighty dollar. They pay peanuts and they treat their staff as crap so staff leave so they have to hire again so staff leave so they rehire. They are always advertising because people walk. They have extremely poor working conditions and they expect pharmacists to cut corners and do illegal things. Basically, mentally and physically unhealthy places. (Participant 8)
B3. Overall neutral affect towards service provision	Advantages did not always out weight the disadvantages of providing services	Like, like I understand the benefits of it, and I definitely want to – like I think that pharmacists need to be able to practise to full scope, we need to even expand our scope, that's very exciting. I definitely see that as positive. But when I actually think of doing a professional service, I associate that with stress. Like, on a personal level, I think I would go, 'Ugh. I've got to do this service thing, and that's stressful.' And so it kinda balances out to be neutral? (Participant 23)
B4.1 Role conflict, overload and incongruity	Role overload	Interruptions? So, if you're the only pharmacist working there, or there's another one in there on lunch […] you'll get phone calls that you have to tend to. At the same time, you might get deliveries in that you need to sign for. At the same time, you've got somebody who's come in for […] a pharmacist only medication. Even though there's no prescription involved, it requires a pharmacist to be involved in the consultation, and the same time, you've got prescriptions to dispense; you also have a doctor on the phone. There's so many things that are happening at once, and it's, it's really challenging, sometimes, to focus on one task, when you've got 5000 things in the background, and it takes a lot of practice at being able to prioritise […] (Participant 15)
	Role conflict	But for me, personally, I always make sure there's another pharmacist in the store [while giving flu vaccinations] because we're just too busy – and potentially too many people could be waiting, too many scripts could pile up, and there's the issue of, what if someone faints on you? Then you've got to drop everything and it's a medical emergency. So it's just awkward if you're the only person, the only pharmacist on. (Participant 18)
	Role incongruity: a desire for role innovation	I don't really like the dispensary management, in terms of stock and dispensing - that's not really why I feel like we're in this profession. So for me, more of a clinical base role, or more of a service provision role, is definitely what I'd like to be doing. (Participant 12) […] if I had all the resource that I can have, then, what I would do is, I would love to have a pharmacist, or

Table 6 (*continued*)

Section	Theme	Quote
		two! Who – who's just dedicated to, to providing service. To providing clinical services, and things like that. I would love to have it, an outreach pharmacist who can do all the reviews for us […] (Participant 20, pharmacy owner)
	Personal dissatisfaction with service quality possible in working conditions	It's just extra pressure that - you're trying to do, you know, a grade A job, but you've got so much to fit in, like you don't want to put in a C effort, just to get it all done. (Participant 15, locum pharmacist)
	Conflict with the reality of pharmacist profession and personal expectations	We've learnt so different! And we thought, you know, you're gonna be using all your clinical knowledge and you're going to change the world. And disappointing to know that, [the professional reality] haven't changed as much as we'd like to. Still rewarding. But yeah. (Participant 5, staff pharmacist)
	Incongruity with how others valued the pharmacist role	I think that there are a lot of people, you know, a lot of my colleagues [implied to be health professionals that are not pharmacists] just wouldn't understand what a fundamentally important part of what we do that is, you know. (Participant 7, pharmacist owner)
	Incongruity with professional and personal values	I guess everyone has to balance this: the will to - I guess, the balancing of the urge to earn more money and the urge to providing services for the person's best - their health benefit. But of course, that wasn't something I was interested in, purely from a personal, from a stressed, all that stress that might come with it, or the risk that might come with it. (Participant 13, former pharmacist manager)
	Incongruity with pharmacy organisation norms	Not only are the patients not appreciating what you doing, but also these pharmacies that has this, you know, culture, that is giving these patients a false impression of what we should be doing. And then this patient will come back and tell us what we should be doing, you know! And then I will be like, you know, you know, "I don't need you to tell me how to do my job." (Participant 22, locum pharmacist)
B4.2 Role ambiguity	Pharmacists needing to 'figure out' how to implement services	So I think we're in a position where we can make a lot of positive impact. But, I don't know, people have gotta, I guess, have a bit of courage and not be too scared of, I guess, trying something different, than persevering with it […] (Participant 11, pharmacist owner)
	Being required to innovate without the resources to do so	You actually physically can't [provide the service]! Like the flu vaccine, but they didn't order any needles, and you have to go figure it out. It kinda feels like that? If they want to offer everything, but don't actually plan for it, or budget for it, or, you know, actually provide those resources or tools, as part of that? (Participant 23, part-time pharmacist)
B4.3 Role underqualification, overqualification and underload	Perception that training is required for service provision	Because if it is a paid service, the patient wants to get the best out of it. In order to do that, you still need to make yourself better and therefore understand the therapeutics; understand the pharmacology behind it, and train yourself! (Participant 24)
	Further pharmacist training being largely unpaid	Like, Chronic Pain Medscheck, it took me forever! The bloody training says 10 h: I told you, it takes more than 20! […]i It's a huge input for any pharmacist who's willing to participate: to go through the training. I'm assuming everyone gets trained without pay, like I did. (Participant 17)
	Cognitive underload	I know that at times – and I've been doing this for 20 years – so I think in any job you start to get - feel a bit sort of stale doing the same thing. I think when I was just in the pharmacy – even though I find that important, and I think I can make a difference there - I think if that's the only thing I'm doing, that's probably when I start to feel a bit like… I'd like to be doing something a little bit more interesting. (Participant 4)
	The need for pharmacist roles to evolve	So look I'm all in favour [of cognitive pharmacy service provision] I think. I think our roles as, our roles as community pharmacists have to evolve. I don't think it can be - it's no longer part of, just to dispense and counsel model anymore. (Participant 14)
	The need for pharmacy practice to evolve	[…] there must be an evolution and transition from pure dispensing, which, which it was, 20 years ago, I mean 10 to 15 years ago, to a provision of services. Particularly in rural communities where we have a lack of medical services? […] No, no, I think it's an essential evolution. (Participant 16)
	Service innovation being required to 'survive' pharmacy corporatisation	You know, my answer to that, is you've got no other choice, because eventually that kind of crazy price disclosure will get you eventually. […] there won't be enough money in your dispensary to cross subsidise anything, you know. So we just feel like we have no choice, I just said, no alternative to actually innovating or changing something. (Participant 3)

their patients, producing better health outcomes. This type of support is similar to the organisational theory construct of 'perceived organisational support'.[61]

The positive role outcomes from this perceived organisational support, from one participant's perspective, balanced or even negated strain, and transformed the experience positively in their eyes. In other words, the new CPRSFF sub-factor of perceived 'service quality' was important in how they perceived their work culture and organisational experiences, particularly if they were motivated by altruism. As an example of the weighing process pharmacists spoke of when deciding if they were satisfied (or not) with the profession, Participant 22 reported being a 'high achiever', arguing that their personal standard of service quality had to be met or exceeded in order to positively view their working experiences in that pharmacy. This was compared with their tertiary education training, and when their professional expectations were not met, they considered leaving the community sector or the profession. In other words, pharmacists appeared to be weighing up the personal positive and negative outcomes of their jobs, role and career; the overall affective outcome (positive, negative or neutral) was heavily influenced by how it appeared through the lens of the professional pharmacist identity.

In summary, it could be that pharmacist identity has a higher impact on the perception of pharmacist strain than previously documented. This association of pharmacist identity with organisational perception and workplace behaviour is consistent with a previous UK study, which found the exercise of their autonomy to engage communities was important to pharmacists in the offering of clinically oriented, patient focused services.[8] If this is true, in this age of pharmacist role transition,[77–79] rather than leaving individual pharmacists and associations to discover ways to negotiate changes in pharmacist roles, it may be necessary to apply theoretical and evidence-based measures to structurally support the pharmacist role transition. This could include: educating other health professionals and the public that pharmacist knowledge and expertise is an indicator of performance and competency (rather than speed); and pharmacist workload measures, much like their current role expectations, may require updating for monitoring pharmacist productivity.

5.1. The applicability and use of the CPRSFF

The findings of the study regarding the pharmacist role system and personal impacts of CPS provision were also applied to the CPRSFF, producing a local Australian version of the framework.

The CPRSFF (or the Aust-CPRSFF, in Australia) seems to provide a descriptive overview of the community pharmacist's role system, and possible workforce health issues involved. It framed the data in the subjective

pressures and demands a role places on an individual (i.e. occupational or workforce health), and led towards an understanding of how pharmacist roles can produce strain, or why it does not produce strain in others in similar circumstances. This was true even though a subset of pharmacist services were the original focus of the study, since it became obvious that for these pharmacists, these tasks could not be separated from their other work processes. Overall, using the CPRSFF provided the researcher with a deeper insight into the complexities of the pharmacist's role and its personally experienced outcomes. Systematic categorisation using the CPRSFF allowed apparent issues to be broken down into more readily actionable ideas.

For those outside the discipline, the CPRSFF could be used to provide a systemic understanding of the factors involved in the Australian community pharmacist's role, and thus facilitate engagement with future study participants. Of course, the CPRSFF cannot be used to hypothesise directional relationships between different factors, stress types and strain, without further research.

In preparing this paper, it was necessary to consider more specifically how the concepts within the CPRSFF could be of direct applicability to the discipline, other than an analysis of the community pharmacist role system. This contemplation resulted in additional steps of analysis to pinpoint workforce health issues, which were strongly represented during the framework method analysis.

For the researcher looking at workforce issues alone, with less interest in the whole role system, the following approach would allow a focus on the strain at hand, rather than coding for the entire CPRSFF. The process is summarised in the following treatment of qualitative data:

1. If examining a particular task or activity, code for individual positive, negative or neutral affect.
2. Code negative affect into the different role strain categories. From this data, the related role stress types and factors can be associated.
3. Code positive affect into role benefit categories. From this data, the related role stress types and factors can be associated.
4. Code for role stress types represented strongly in both categories of positive and negative affect. Causative role stress factors may be more easily pinpointed through this analysis.
5. Neutral affect coding is useful for understanding the factors which act as mediators between a positive or negative response to stressors, and how the individual calculates the value of their role.
6. If applying to community pharmacist work, consider the ongoing role transitions at hand, and how it is affecting strain being experienced at the micro, *meso* and macro levels. This is important as it is a major component of the current workforce issues.

This is written in recognition of how it may be unwieldy for researchers to consider all the factors, stress types and strains for a role since this can be convoluted, and perhaps overly complicated. Additionally, the many different factors in the framework may confound one another, which should be expected in complex healthcare settings.

5.2. Limitations

Obviously, the nature of qualitative work limits the generalisability of these results as it may not be representative of all community pharmacist experiences in Australia. The sample size of 23 participants was not large, although data saturation was reached. However, participants were from a variety of backgrounds and locations in Australia, representing areas of differing socioeconomic status and rurality.

One researcher FY performed, transcribed and coded the interviews due to the scope of the project. FY is a registered community pharmacist with more than ten years of experience in the setting. However, this was an advantage in participant recruitment and engagement, since FY could use the profession's own language to recruit participants, since it has been acknowledged that pharmacists can be time-poor and difficult to engage in research.[80–82]

The pharmacists in this study may have limited what they said, based on what they believed the researcher wanted them to talk about. For example, it is likely that pharmacist work choices are affected by their personal requirements for work-life balance, but because they perceived the study was about pharmacy service factors rather than working lifestyle decisions, participants may have been predisposed to only talk about their work conditions, rather than external factors. Although participants did not formally provide feedback on the findings, some have informally expressed support.

Participants were not provided with a definition of professional pharmacy services, and thereby spoke from their own understanding. When prompted, the researcher specified 'patient-facing services', which does not limit professional pharmacy services to cognitive pharmacy services, in order to elicit pharmacist understanding of the term 'services'. Our results[43] indicate a formal classification of services which reflect their differing requirements, outside of the federal Australian Community Pharmacy Agreements, may aid pharmacists to better conceptualise the requirements for successful implementation of different pharmacy services.

5.3. Future directions

Future implications of this study include the use of social exchange theory in examining pharmacist interactional work and typification of community pharmacist behaviour in detail. It may be interesting to stratify pharmacists according to location, experiences or pharmacy organisation structure and contrast their experiences to discover characteristics that are more acceptable to pharmacists.

Other avenues of investigation could include an exploration of community pharmacist contributions to public health savings throughout the health system, studies of role identity, role distance and backstage behaviour in pharmacists, or analyses of pharmacist social networks to discover how they gather information about their profession and social standing. Also, research into understanding why pharmacists choose their jobs, why they continue in particular sectors, or whether particular career paths suit certain individuals more could be fruitful. Several references to pharmacists leaving the profession suggest that future workforce research is necessary to understand whether this perception is true, what could be causing this reported exodus, and how to stem the flow.

6. Conclusion

Pharmacist strain was reported as endemic to the Australian community pharmacy workplace, regardless of CPS implementation. In places that were under-resourced for CPS delivery (whether intentionally, or accidentally due to low socioeconomic areas or remoteness), strain seemed to be heightened. However, in pharmacies that reported CPS routinisation and organisational cultures friendly to altruistic professional values, positive outcomes (related to strengthening the professional identity of the pharmacist) were reported to lead to neutralisation or lessened strain. For these pharmacies, this produced increased loyalty to the profession and pharmacy workplaces in the pharmacists. In other words, pharmacists saw their work experiences through the lens of their professional values.

The CPRSFF was found to be relevant to Australian community pharmacists. The resultant Australian CPRSFF can be used to chart personal work considerations of Australian pharmacists in the community sector, and to measure pharmacist workforce issues.

By using social exchange, organisational theory and role theory, this paper may inform future workforce health research and complement implementation approaches to address community pharmacist occupational health and applications of patient-centred care in Australia.

Abstracts/posters

This study had preliminary results presented as a poster: 'I became a pharmacist to help people': Australian community pharmacist service provision role outcomes and factors – a qualitative study. In: Proceedings of the Australasian Pharmaceutical Science Association: Working together

towards better health outcomes. Melbourne; 2019. Available from: https://www.expertevents.com.au/wp-content/uploads/APSA-2019-Book-of-POSTER-Abstracts_Final_2611.pdf or https://www.researchgate.net/publication/337756064_I_became_a_pharmacist_to_help_people_Australian_community_pharmacist_service_provision_role_outcomes_and_factors_a_qualitative_study

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Ethics approval

This study obtained ethics approval from the UTS Human Research Ethics Committee (ETH HREC 19–3417).

CRediT authorship contribution statement

Faith R. Yong: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Writing – original draft, Writing – review & editing, Visualization, Project administration. **Su-Yin Hor:** Supervision, Writing – review & editing. **Beata V. Bajorek:** Conceptualization, Methodology, Writing – review & editing, Supervision, Writing – original draft.

Declaration of Competing Interest

FY is a currently registered community pharmacist in Australia. She has been an invited speaker at a Guild conference in 2020, and is an independent subcontractor for PSA educational materials. No other conflicts of interest exist for FY, BB or SH.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.rcsop.2023.100247.

References

1. Yong FR. Instruments measuring community pharmacist role stress and strain measures: a systematic review. Res Social Adm Pharm 2021;17(6):1029–1058.
2. Yong FR, Garcia-Cardenas V, Williams KA, Benrimoj SI. Factors affecting community pharmacist work: a scoping review and thematic synthesis using role theory. Res Social Adm Pharm 2020;16:123–141.
3. Chapman CB, Wilson SG, Wilson DI, Dunkley MK. National survey of pharmacists, intern pharmacists and pharmacy students in Australia: the nature and extent of stress and well-being. Int J Pharm Pract 2020:n/a.
4. Mak VSL, March GJ, Clark A, Gilbert AL. Why do Australian registered pharmacists leave the profession? A qualitative study. Int J Clin Pharmacol 2013;35:129–137.
5. Mak VSL, Clark A, March G, Gilbert AL. The Australian pharmacist workforce: employment status, practice profile and job satisfaction. Aust Health Rev 2013;37:127–130.
6. Benrimoj SI, Frommer MS. Community pharmacy in Australia. Aust Health Rev 2004;28:238–246.
7. Moles RJ, Stehlik P. Pharmacy practice in Australia. Can J Hosp Pharm 2015;68:418–426.
8. Duckett K. Community, autonomy and bespoke services: independent community pharmacy practice in hyperdiverse, London communities. Res Social Adm Pharm 2015;11:531–544.
9. Bernsten C, Andersson K, Gariepy Y, Simoens S. A comparative analysis of remuneration models for pharmaceutical professional services. Health Policy 2010;95:1–9.
10. Huttin C. A critical review of the remuneration systems for pharmacists. Health Policy 1996;36:53–68.
11. Houle SK, Grindrod KA, Chatterley T, Tsuyuki RT. Paying pharmacists for patient care: a systematic review of remunerated pharmacy clinical care services. Canadian Pharm Jl/Revue Pharm Canada 2014;147:209–232.
12. Chan P, Grindrod KA, Bougher D, et al. A systematic review of remuneration systems for clinical pharmacy care services. Canadian Pharm J/Revue Pharm Canada 2008;141:102–112.
13. Bush J, Langley CA, Wilson KA. The corporatization of community pharmacy: implications for service provision, the public health function, and pharmacy's claims to professional status in the United Kingdom. Res Social Adm Pharm 2009;5:305–318.
14. Doucette WR, Nevins JC, Gaither C, et al. Organizational factors influencing pharmacy practice change. Res Social Adm Pharm 2012;8:274–284.
15. Moussa L, Garcia-Cardenas V, Benrimoj SI. Change facilitation strategies used in the implementation of innovations in healthcare practice: a systematic review. J Chang Manag 2019:1-19.
16. Lea VM, Corlett SA, Rodgers RM. Describing interruptions, multi-tasking and task-switching in community pharmacy: a qualitative study in England. Int J Clin Pharmacol 2015;37:1086–1094.
17. Scahill S, Harrison J, Carswell P. Describing the organisational culture of a selection of community pharmacies using a tool borrowed from social science. Pharm World Sci 2010;32:73–80.
18. Angelo LB, Christensen DB, Ferreri SP. Impact of community pharmacy automation on workflow, workload, and patient interaction. J Am Pharm Assoc 2003;2005(45):138–144.
19. Phipps DL, Ashcroft DM. An investigation of occupational subgroups with respect to patient safety culture. Safety Sci 2012;50:1290–1298.
20. Feletto E, Wilson LK, Roberts AS, Benrimoj SI. Building capacity to implement cognitive pharmaceutical services: quantifying the needs of community pharmacies. Res Social Adm Pharm 2010;6:163–173.
21. Gavaza P, Fleming M, Barner JC. Examination of psychosocial predictors of Virginia pharmacists' intention to utilize a prescription drug monitoring program using the theory of planned behavior. Res Social Adm Pharm 2014;10:448–458.
22. Dupclay Jr L, Rupp MT, Bennett RW, Jarnagin TM. Analysis of grocery chain pharmacists' work-related behaviors. J American Pharm Assoc (Washington,DC: 1996) 1999;39:74–81.quiz 105–106.
23. Elaro A, Shah S, Armour CL, Bosnic-Anticevich S. A snapshot of pharmacist attitudes and behaviors surrounding the management of pediatric asthma. J Asthma 2015;52:957–968.
24. Kroger E, Moisan J, Gregoire JP. Billing for cognitive services: understanding Quebec pharmacists' behavior. Ann Pharmacother 2000;34:309–316.
25. Zwarentein M., Goldman J., Reeves S. Interprofessional collaboration: effects of practice-based interventions on professional practice and healthcare outcomes. Cochrane Database Syst Rev. 2017, Issue 6. Art. No.: CD000072. DOI: 10.1002/14651858.CD000072.pub3 (2009Jul 8;(3):):CD000072.
26. Bradley F, Elvey R, Ashcroft DM, et al. The challenge of integrating community pharmacists into the primary health care team: a case study of local pharmaceutical services (LPS) pilots and interprofessional collaboration. J Interprof Care 2008;22:387–398.
27. Herbert KE, Urmie JM, Newland BA, Farris KB. Prediction of pharmacist intention to provide Medicare medication therapy management services using the theory of planned behavior. Res Social Adm Pharm 2006;2:299–314.
28. Carter SR, Moles R, White L, Chen TF. The impact of patients' perceptions of the listening skills of the pharmacist on their willingness to re-use home medicines reviews: a structural equation model. Res Social Adm Pharm 2015;11:163–175.
29. Chui MA, Mott DA. Community pharmacists' subjective workload and perceived task performance: a human factors approach. J Am Pharm Assoc 2012;52:e153–e160.
30. Mehralian G, Rangchian M, Javadi A, Peiravian F. Investigation on barriers to pharmaceutical care in community pharmacies: a structural equation model. Int J Clin Pharmacol 2014;36:1087–1094.
31. Moullin JC, Sabater-Hernández D, Benrimoj SI. Qualitative study on the implementation of professional pharmacy services in Australian community pharmacies using framework analysis. BMC Health Serv Res 2016;16.
32. Paudyal V, Hansford D, Scott Cunningham IT, Stewart D. Cross-sectional survey of community pharmacists' views of the electronic minor ailment service in Scotland. Int J Pharm Pract 2010;18:194–201.
33. Roberts AS, Hopp T, Sorensen EW, et al. Understanding practice change in community pharmacy: a qualitative research instrument based on organisational theory. Pharm World Sci 2003;25:227–234.
34. Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. International J Qual Health Care 2007;19:349–357.
35. Hardy ME, Conway ME. *Role Theory: Perspectives for Health Professionals.* Appleton & Lange. 1988.
36. Cartwright S, Cooper CL. *The Oxford Handbook of Organizational Well Being.* Oxford University Press. 2009.
37. Harris PA, Taylor R, Minor BL, et al. The REDCap consortium: building an international community of software platform partners. J Biomed Inform 2019;95, 103208.
38. Harris PA, Taylor R, Thielke R, Payne J, Gonzalez N, Conde JG. Research electronic data capture (REDCap)–a metadata-driven methodology and workflow process for providing translational research informatics support. J Biomed Inform 2009;42:377–381.
39. Hassell K, Seston EM, Eden M. *Pharmacy workforce census 2005: Main findings.* 2009.
40. Kelly SE. Qualitative interviewing techniques and styles. In: *Bourgeault IL, Dingwall R, De Vries R, eds.* The SAGE Handbook of Qualitative Methods in Health Research. London: SAGE Publications Ltd; 2010.
41. Grbich C. *Qualitative Data Analysis : An Introduction / Carol Grbich.* London ; Thousand Oaks, Calif: SAGE. 2013.
42. Leung DY, Chung BPM. Content analysis: Using critical realism to extend its utility. In: *Liamputtong P, ed.* Handbook of Research Methods in Health Social Sciences. Singapore: Springer Singapore; 2019. p. 827–841.

43. FR Y, S H, BV B. Considerations of Australian Community Pharmacists in the Provision and Implementation of Cognitive Pharmacy Services: A Qualitative Study. (unpublished). BMC Health Services Research. 2021.
44. Gale NK, Heath G, Cameron E, Rashid S, Redwood S. Using the framework method for the analysis of qualitative data in multi-disciplinary health research. BMC Med Res Methodol 2013;13:117.
45. DoHAG. Modified Monash model suburb and locality classification - home care subsidy. Department of Health AG. Commonwealth of Australia; 2019.
46. HCfPaMS. *PhAria Values 2018–2019.: Hugo Centre for Migration aand Population Research*. 2018.
47. ABoS. *IRSD Interactive Map. 2033.0.55.001 - Census of Population and Housing: Socio-Economic Indexes for Areas (SEIFA), Australia*. Canberra: Australian Bureau of Statistics. 2016:2018.
48. Australia TPBo. *REPORTING period: 01 April 2019 To 30 June 2019. Registrant data*. Australian Health Practitioner Regulation Agency (AHPRA). 2019.
49. Research HCfMaP. *Pharmacy ARIA (PhAria)*. , Vol. 2019The University of Adelaide. 2019.
50. Department of Health AG. Factsheet - Modified Monash Model. 740 D. Online: Australian Government; 2019.
51. Meijer M, Röhl J, Bloomfield K, Grittner U. Do neighborhoods affect individual mortality? A systematic review and meta-analysis of multilevel studies. Soc Sci Med 2012;74:1204–1212.
52. Ortiz M. Is it possible to get the right amount of pharmacists? Or are we permanently facing a crisis of oversupply? Michael Ortiz does the numbers. Australian J Pharm 2018.ajp.com.au: APPCo Pty Ltd.
53. Department of Employment S, Small and Family Business. Hospital/retail pharmacist occupational reports 2018 [updated Monday 3 Sept 2018. Reports of workforce shortages in retail or hospital pharmacist positions]. Available from: https://docs.employment.gov.au/collections/hospitalretail-pharmacist-occupational-reports.
54. Niven K, Ciborowska N. *The Hidden Dangers of Attending Work while Unwell: A Survey Study of Presenteeism among Pharmacists*. , Vol. 22US: Educational Publishing Foundation. 2015:207–221.
55. Al Nuhait M, Al Harbi K, Al Jarboa A, et al. Sickness presenteeism among health care providers in an academic tertiary care center in Riyadh. J Infect Public Health 2017;10:711–715.
56. Amin M, Chewning B. Pharmacies without pharmacists: absenteeism plagues pharmacies in developing countries. Res Social Adm Pharm 2017;13:400–401.
57. Qadeer G, Amin MEK. Perspectives on an amended law addressing pharmacists' availability in community pharmacies. J Eval Clin Pract 2021;27:151–157.
58. Harrison DA, Martocchio JJ. Time for absenteeism: a 20-year review of origins, offshoots, and outcomes. J Manag 1998;24:305–350.
59. Marupuru S, Axon DR, Campbell P, et al. Exploring performance predictors among employees in a pharmacist-led medication management center. J Am Pharm Assoc 2020;60:809–817.
60. Fitzgerald D, Reid A. Frequency and consequences of violence in community pharmacies in Ireland. Occup Med 2012;62:632–637.
61. Leupold CR, Ellis LE, Valle M. Job embeddedness and retail pharmacists' intention to leave. Psychol-Manager J 2013;16:197–216.
62. Seston E, Hassell K, Ferguson J, Hann M. Exploring the relationship between pharmacists' job satisfaction, intention to quit the profession, and actual quitting. Res Social Adm Pharm 2009;5:121–132.
63. Gaither CA, Mason HL. Commitment to the employer: do pharmacists have it? Am Pharm 1992;Ns32:41–46.
64. Mott DA. Pharmacist job turnover, length of service, and reasons for leaving, 1983-1997. Am J Health Syst Pharm 2000;57:975–984.
65. Sim TF, Wright B, Hattingh L, Parsons R, Sunderland B, Czarniak P. A cross-sectional survey of enhanced and extended professional services in community pharmacies: a pharmacy perspective. Res Social Adm Pharm 2020 Apr;16(4):511–521. https://doi.org/10.1016/j.sapharm.2019.07.001.Epub 2019 Jul 4.
66. Family HE, Weiss M, Sutton J. The effects of mental workload on community pharmacists' ability to detect dispensing errors. Pharm Res UK 2013:1-121.
67. Chui MA, Mott DA, Maxwell L. A qualitative assessment of a community pharmacy cognitive pharmaceutical services program, using a work system approach. Res Social Adm Pharm 2012;8:206–216.
68. Thompson L, Bidwell S. Space, time, and emotion in the community pharmacy. Health Place 2015;34:251–256.
69. Bond CM, Blenkinsopp A, Inch J, Celino G, Gray NJ. The effect of the new community pharmacy contract on the community pharmacy workforce. Med People: Turn Knowl Know-How: Pharm PractRes Trust 2008.
70. Walker A, Watson M, Grimshaw J, Bond C. Applying the theory of planned behaviour to pharmacists' beliefs and intentions about the treatment of vaginal candidiasis with non-prescription medicines. Fam Pract 2004;21:670–676.
71. Gavaza P, Brown CM, Lawson KA, Rascati KL, Wilson JP, Steinhardt M. Examination of pharmacists' intention to report serious adverse drug events (ADEs) to the FDA using the theory of planned behavior. Res Social Adm Pharm 2011;7:369–382.
72. Fleming ML, Barner JC, Brown CM, Shepherd MD, Strassels S, Novak S. Using the theory of planned behavior to examine pharmacists' intention to utilize a prescription drug monitoring program database. Res Social Adm Pharm 2014;10:285–296.
73. Ortiz M, Walker WL, Thomas R. Community pharmacists' professional role orientation. J f Soc Administrat Pharm 1992;9:97-103.
74. Perepelkin J, Dobson RT. Influence of ownership type on role orientation, role affinity, and role conflict among community pharmacy managers and owners in Canada. Res Social Adm Pharm 2010;6:280–292.
75. Clark BE, Mount JK. Pharmacy service orientation: a measure of organizational culture in pharmacy practice sites. Res Social Adm Pharm 2006;2:110–128.
76. Pendergast JF, Kimberlin CL, Berardo DH, McKenzie LC. Role orientation and community pharmacists' participation in a project to improve patient care. Soc Sci Med 1995;40:557–565.
77. Kellar J, Paradis E, van der Vleuten CPM, Egbrink MGA, Austin Z. A historical discourse analysis of pharmacist identity in pharmacy education. Am J Pharm Educ 2020 Sep;84(9):ajpe7864. https://doi.org/10.5688/ajpe7864.
78. Schindel TJ, Yuksel N, Breault R, Daniels J, Varnhagen S, Hughes CA. Perceptions of pharmacists' roles in the era of expanding scopes of practice. Res Social Adm Pharm 2017;13:148–161.
79. Elvey R, Hassell K, Hall J. Who do you think you are? pharmacists' perceptions of their professional identity. Int J Pharm Pract 2013;21:322–332.
80. Saini B, Brillant M, Filipovska J, et al. In: *Saini B, ed.* Recruitment and Retention of Community Pharmacists in Pharmacy Practice Research. Sydney, Australia: Faculty of Pharmacy, University of Sydney; 2005.
81. Awaisu A, Alsalimy N. Pharmacists' involvement in and attitudes toward pharmacy practice research: a systematic review of the literature. Res Social Adm Pharm 2015;11:725–748.
82. Kuipers E, Wensing M, De Smet PAGM, Teichert M. Barriers and facilitators for community pharmacists' participation in pharmacy practice research: a survey. Int J Pharm Pract 2019;27:399–402.