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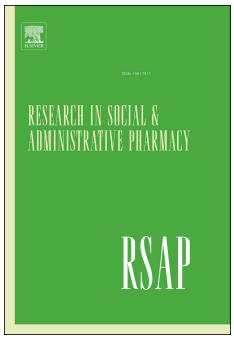

Factors affecting community pharmacist work: A scoping review and thematic synthesis using role theory

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PII: S1551-7411(19)30178-0

DOI: https://doi.org/10.1016/j.sapharm.2019.05.001

Reference: RSAP 1269

To appear in: *Research in Social & Administrative Pharmacy*

Received Date: 12 March 2019

Revised Date: 3 May 2019

Accepted Date: 5 May 2019

Please cite this article as: Yong F, Cardenas VG, Williams K, Benrimoj S, Factors affecting community pharmacist work: A scoping review and thematic synthesis using role theory, *Research in Social & Administrative Pharmacy* (2019), doi: https://doi.org/10.1016/j.sapharm.2019.05.001.

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Factors affecting community pharmacist work: a scoping review and thematic synthesis using role theory.

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Declarations of interest: none.

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Abstract

Many community pharmacists ideologically support recent changes to their roles in primary healthcare. However, their antithetical resistance towards practice change could have systemic causes (i.e. role stresses), which may account for increased job dissatisfaction, burnout, and job turnover in the profession. Deeper comprehension was sought using a role theory framework.

Objective: To identify factors leading to role stresses and strain responses for community pharmacists, and to create a framework for community pharmacist role management.

Method: PubMed, Scopus and Web of Science databases were searched for qualitative studies identifying community pharmacist role stress and strain using scoping review methodology from 1990-2019. Content and thematic analysis using the framework method was performed, and themes were reported using thematic synthesis.

Results: Screening of 10880 records resulted in 33 studies identified, with 41 factors categorised into four domains: Interpersonal Interactions, Social Setting, Individual Attributes, and Extra-Role. All role stresses were present. Reported role strains suggest role system imbalance.

Conclusion: Community pharmacists are in a multifactorial transitional environment. Reported role stresses may be a function of past pharmacist roles and increased role expectations, amplified by many requisite interactions and individual pharmacist characteristics. Social science theories were found to be applicable to the community pharmacy setting.

Keywords: role theory, community pharmacy, pharmacist, work, stress, social science

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INTRODUCTION

Community pharmacy services are an accepted facet of primary healthcare in many countries[1-7] due to a high public health necessity for such services.[8-11] However, there is concern over the personal impact of these increasingly service-orientated initiatives on individual pharmacists.[12-15]

Professional services have become an additional pharmacist role expectation in many developed countries such as the UK, USA, Australia, New Zealand and Europe. Studies show that many pharmacists have a preference to provide patient-centred services.[16-18] Counterintuitively, the same practitioners prioritise traditional role expectations such as dispensing over service provision, for reasons yet unexplained by research.[7, 19-22] Pharmacy practice research in the area has investigated patients, organisational factors, pharmacist performance, behavioural change, pharmacist collaboration with other health professionals, and clinical decision making.[23-27] Some studies report many perceived individual barriers for service implementation,[8, 28-32] while others suggest this is related to the pharmacist role itself.[12, 33-35]

Role theory encapsulates a series of concepts and theories that underpin the social science discipline and is thus widely used in gender, family and identity theory, organisational role theory and communication frame analysis.[36-40] It is used theoretically to explain multiple internal and external demands placed on the person occupying the role.[41, 42] Previously pharmacy practice research has merely used components of role theory or reviewed the use of role theory.[42-47] However, its implications extend beyond this, and could additionally be utilised to examine the experience of pharmacists in their role, improve the quality of interactions with other health professionals and patients, and support an expanding pharmacist scope of practice. Additionally, factors causing role strain responses such as job dissatisfaction or turnover have been well researched in pharmacy practice.[41, 42, 45, 48, 49]

Hardy & Hardy's original framework[41] uses structural role theory and symbolic interactionism constructs, which are explained using social exchange framework principles positing that individuals

give a "role price" to the different roles they occupy, taking into account the benefits of occupying the position and what the individual prioritises.[41] This review takes Moreno's notion that individuals in society "play" roles, as in a theatrical performance, and has adopted Hardy & Conway's definitions of Mead's constructs since their work is validated for health professions.[41, 50, 51] This is necessary to state as multiple meanings of role theory exist; its nomenclature uses everyday words that do not have ordinary definitions and are easily misconstrued as possessing ordinary definitions, e.g. "the other" refers to what individuals think others perceive of them.[41]

Using the above framework, community pharmacist role expectations can be mapped for insight into areas of necessary change, thus facilitating role-making with appropriate rewards and sanctions for pharmacists seeking to provide cognitive services and public health functions.

OBJECTIVE

The aim of this scoping review was to investigate the range of subjective factors causing role stresses and role strains for community pharmacists, using a social science framework, and to construct a framework that investigates the personal impact of changing community pharmacist roles.

METHODS

Using Joanna Brigg Institute's scoping review guidelines,[52] a preliminary search for relevant items was performed on PubMed and Scopus. Search strategies, specified in Appendix 1, were formulated from an analysis of key words and index terms in pertinent articles. Database searches of PubMed, Scopus and Web of Science were performed with a date range of January 1990 to January 2019. Duplicates were deleted from the Endnote database and then manually screened. Title and abstract screening using inclusion and exclusion criteria (see Appendix 2) was performed to identify relevant papers reporting original community pharmacist research studying work roles, role stresses and strains, and factors causing these. This process was over inclusive. Full text articles were read against the exclusion criteria, and omitted if they were not reporting original research in pharmacist role stress and strain in the community sector, and if community pharmacist outcomes were not

reported separately. Only papers using the English language, qualitative and mixed method studies with a qualitative component were accepted due to reviewer limitations. Reference lists of included articles were hand-searched and reviewed for relevance. It was not deemed necessary to contact authors for further information.

A Microsoft Excel spreadsheet was used to extract data, including the year, author, title, country, sample size, response rate, study design, data collection type, theoretical frameworks used, specific surveys used, models produced, and publishing journals. Themes were added iteratively to the spreadsheet as per content analysis methodology, beginning with types of role stresses and role strains, and causes of role stresses and strains were classed as factors. In mixed method studies, relevant qualitative data was extracted from pertinent result sections.

Method of analysis

The Quality Assessment Tool for Studies with Diverse Designs (QATSDD), which produces a quality rating score for each study, was used to assess the reporting and transparency quality of the qualitative and mixed method studies.[53, 54] QATSDD was chosen, as both qualitative and mixed method studies were present. This tool has been found to have established validity, inter-rater reliability and test-retest reliability for consistent quality assessment, and can be used to assess qualitative, quantitative and mixed method studies.[53, 54] Studies that scored <50% of available score (21/42 for qualitative studies, and 24/48 for mixed method studies) were not included in the analysis.

Role theory concepts such as role stress types, role strain responses and role stress factors were identified from literature and added to the data extraction spreadsheet.[41] Content analysis was performed across all articles with one reviewer carrying out line by line analysis, according to thematic synthesis methodology[55] and the Framework Method.[56] Role stress and strain themes identified from the preliminary search and content analysis were added to the data extraction spreadsheet iteratively. References were marked on the data extraction spreadsheet if they included

relevant discussion about identified themes. At this stage, themes that were not in the spreadsheet but were causes of role strain terms were then classed as role stress factors.

Using the iteratively created framework and Framework Method methodology,[56] thematic analysis was performed on qualitative studies and the qualitative content in mixed method studies using NVivo, whereby line-by-line coding of the results and discussion of each study was performed.

The framework constructed from content and thematic analysis was compared with Hardy & Hardy's original role theory framework,[41] and categorised accordingly to display community pharmacist-specific role stresses and strains. This was done as various definitions of role theory exist, such as organisational role theory,[41, 57] functional or structural role theory,[41, 50, 58] and interactional role theory.[57] Hardy & Hardy's theoretical framework and definitions was chosen as their work specifically analyses health professionals. Furthermore, this framework is sufficiently detailed for an examination of the community pharmacist's role, since role partners, interactional characteristics, self, personal resources, social setting and the role occupant are considered.[41] Themes of each node were analysed and reported as per thematic synthesis methodology.[55]

RESULTS

There were 10,880 records identified, resulting in 37 papers that represented 34 studies. One qualitative study was not included in the analysis due to a low QATSDD score (19/42), resulting in a total of 33 studies analysed. Of these, 27 studies were qualitative and 6 studies were mixed methods studies with a qualitative component. Two of these were original research reports, identified by hand-searching, as they were self-published by a UK pharmacy practice research trust with results unavailable elsewhere.[59, 60] See Figure 2 for the PRISMA flowchart [61] of the search process.

The studies were from the UK, US, Australia, New Zealand, Germany and Canada, with the majority from the UK (22 of 37 studies). Two studies sampled 1 and 4 pharmacies respectively,[62, 63] and the remainder sampled pharmacists (8-860 pharmacists; large sample sizes were due to two mixed methods mail surveys with free text responses analysed as qualitative data). Twenty-two studies

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were purposively sampled. Data was most often from semi-structured interviews conducted face-to-face, via telephone and rarely via online conferencing software. Some studies utilised more than one data collection method for triangulation, such as direct observation. All of the studies except one were published in the last 20 years. The QATSDD quality score varied, ranging from 21-36/42 for qualitative studies, and 26-32/48 for the mixed methods studies.

The studies generally analysed the effect of workplace conditions with different resource levels on pharmacists (including subgroups such as locums), or characterised the activities and interactions of pharmacists with different role partners. A full list of included studies, countries of origin, sample sizes, response rates, QATSDD score and data collection methods can be found in Appendix 3.

Role Stress Factors

There were four categories of community pharmacist role stress factors identified in the data (Table 1): Interpersonal Interactions, the Social Setting, Individual Characteristics, and Extra-Role Stress Factors. Definitions and examples for role stress factors, role stress types and role strains are available in Appendix 4. The major themes of each category are reported below.

Interpersonal Interactions

The Interpersonal Interaction category describes how pharmacists may interact directly with 10 major role partners in order to perform their work: patients, medical practitioners, allied health practitioners (e.g. nurses), pharmacy supervisors/managers, pharmacy organisations/proprietors, other pharmacists, pharmacy staff (e.g. dispensary technicians or pharmacy assistants), industry representatives such as pharmaceutical representatives, professional pharmacist associations and government bodies. Pharmacists also may interact indirectly with at least two role sets (a “role set” or “dyad” consists of two role partners who interact in order to achieve mutually beneficial outcomes)[41]: the pharmacy staff-patient and the medical practitioner-patient role sets, which affect the pharmacist-patient role set.[60, 64-72]

Communication and relationships

Verbal and non-verbal communication interaction skills face-to-face, via phone and proxies such as pharmacy assistants[66, 67, 73] were reported as a central theme for pharmacist work.[60, 63-65, 70-77] Communication was described as essential to building rapport required to complete pharmacist work.[27, 63, 72] Pharmacists were described as central to pharmacy staff teams as leaders[27, 59, 67, 78-80] that were expected by teams to be involved in all areas of the pharmacy.[27, 68, 81] Concerns about role partner responses to role-making appeared to affect pharmacist decision-making processes, especially as some of these relationships seemed to be perceived as non-existent or insufficiently stable to survive a possible deterioration caused by redefinition of role expectations.[60, 63, 72, 82, 83]

The pharmacist-patient dyad

The most often described role set was the pharmacist-patient dyad,[27, 35, 60, 64, 65, 67-69, 75, 78, 79, 84-87] which was characterised by incongruity between pharmacist and patient expectations,[65-67, 71] and the perceived unpredictability of the patient as a role partner[27, 64, 69, 75, 84, 85, 87] (e.g. patients were described as both demanding and expecting 'instant service' although being also 'appreciative')[85]. Increased patient care associated with clinical responsibilities was linked with job satisfaction; this was posited to be the effect of clinical skill utilisation increasing pharmacist status, increased rapport and participation in the 'patient journey'.[33, 63, 88] But dissatisfaction was also inferred when patients placed time pressure on pharmacists, showed their ignorance of pharmacist responsibilities or had their own agendas.[35, 60, 63, 65, 73, 74, 79, 84, 85, 87, 89] Patients also were reported to test physical, temporal and social boundaries of pharmacist work.[27, 35, 65, 67, 85] Legal boundaries[62, 67, 68, 80], the level of privacy afforded[65, 73] and organisational conditions[65, 72-74, 80, 88] mediated some aspects of interaction between pharmacists and patients.

Social Setting Role Stress Factors

For the category of Social Setting, i.e. the pharmacy workplace, pharmacists were the most opinionated and verbose. Many opinions were neutral, resigned or decidedly negative in regards to pharmacy work settings, which could be due to the search terms "stress" and "strain" that ordinarily have negative connotations (in role theory, role stress is not inherently negative).[41] Regardless of

perceived overload, any positive reports on pharmacist working conditions were characterised by sufficient organisational support.[27, 70, 72, 82] Unfavourable conditions reported included reduced numbers of support staff[33, 78, 82, 88]; no wage increases despite an increased workload, or marginal wage increases for management positions[76, 88-92]; long working hours without time for breaks or meal times[35, 60, 79, 82, 83, 85, 88, 93]; inability to take personal leave despite having home and child commitments (reported mostly by female pharmacists)[79, 89, 92]; a lack of opportunity for career advancement[33, 87, 88, 91, 94-98]; highly stressful work environments[75, 79, 83, 89]; and a diminishing sense of autonomy due to corporatization.[35, 60, 76, 78, 79, 87, 88] Organisational culture was implicated as both a barrier and facilitator in safety processes, service provision and patient care.[27, 33, 70, 78, 82, 89]

Pharmacy service provision targets

The use of service targets were viewed negatively due to time constraints, conflicting responsibilities and lacking rewards for individual practitioners.[33, 60, 63, 65, 73, 79, 80, 87, 89] Clinical service targets, combined with usual working conditions for pharmacists, were reported as being without sufficient consideration of employee wellbeing or resource adequacy, leading to the frustration and isolation of pharmacists,[76, 88, 99] and thus were said to lead to a resultant poor relationship with supervisors and employer.[44, 87] One study reported that the removal of financial targets had a positive effect on service provision.[72]

The influence of management

In all pharmacy types, tensions between 'front-line' pharmacists (i.e. those who were providing patient care) and management or pharmacy proprietors (i.e. multiple/chain pharmacies or independent pharmacies respectively) were reported as occurring due to differing levels of autonomy and perceived management disengagement.[79, 80, 82, 87, 88] Negative reports were associated with a perception of poor appreciation for pharmacist work, understaffing and under-resourcing the pharmacy, and unequal or unfair treatment of staff.[33, 78, 80, 82, 87-89, 100] Pharmacists linked these conditions with decreased patient safety.[78, 82, 87] On the other hand, supportive management measures (e.g. sufficient staffing) were highly lauded and appreciated by pharmacists.[27, 70, 87, 92]

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The influence of pharmacy organisation structures

Chain, multiple and corporate pharmacies were described with an "impersonal" formal hierarchy and structure, and as having standard operating procedures and key performance indicator targets,[79, 80, 84, 87] "little respect for staffing conditions" and perceiving their staff as "replaceable".[80, 82] Pharmacists perceived that these larger types of pharmacies had more commercial emphases in direct conflict with professional pharmacist values,[64, 80, 82, 88] which could explain the generally lower job satisfaction of pharmacists working in chain pharmacies.[88, 89] Chain pharmacies were also reported as not necessarily possessing better safety and quality than an independent pharmacy, [80, 82] just as subjective employee experiences under independent pharmacies were not always better.[80] Independent pharmacies were viewed as being "more caring", "personalized", and possessing "easier access" to pharmacy management,[80, 82] who were reported as being more concerned about customer service and attitudes to work (e.g. 'motivation' and 'timekeeping').[80, 101]

Work environments associated with job satisfaction and dissatisfaction

The working conditions associated with increased job satisfaction were: "family-friendly" hours for female pharmacists in the UK,[92] decreased pressure to "make sales",[72] pharmacist supervisors,[87] and service provision that resulted in increased pharmacist status in the community and perceptions of achievement.[33, 59, 72] Two instances of role satisfaction were associated with patient contact involved in cognitive pharmaceutical services.[59, 72]

Individual Characteristics Role Stress Factors

The Individual Characteristics category (e.g. age, gender, ethnicity, individual work preferences) contained several themes. The role affinity and orientation of pharmacists demonstrated the variety of individuals who are in the workforce, with pharmacists reporting strong preferences towards specific tasks such as service provision, pharmacy management or dispensing.[27, 60, 64, 78, 81]

Gender and domestic roles

Being female seemed to be associated with lower paid staff jobs that were part-time, lesser prospect of career promotion and losing stable management positions due to maternity, [79, 92, 100], increased levels of job satisfaction with flexible working hours, and yet perceiving the sector as suitable for

women.[89, 92, 100] Only one study studied male pharmacists, who were reported as working more hours, preferring to work in busy pharmacies and holding management positions that allowed them to delegate work, rather than patient-facing roles.[79]

Pharmacist perception of 'generalised other'

Pharmacists perceived that others generally saw them as accessible, authoritative and capable health professionals who were interested in patients, their medicines and interprofessional collaboration within legal boundaries.[27, 66, 67] In the pharmacy, they perceived that staff saw them as leaders and general all-rounders who ultimately solved problems others could not.[27, 68] However, some perceived themselves to be poorly understood and supported, overlooked, and thereby undervalued by some role partners they interacted with, for example: health professionals who looked down on them as conflict-ridden "shopkeepers" who "sold" services to reach "quotas".[63, 69, 82, 83, 85]

Role performance

Pharmacist role performance was described as an "intense" process requiring precision, speed and situation awareness.[27, 79, 82, 89] This could be hindered by lack of information or erroneous information due to a lack of process, poorly integrated standard procedures, untidiness, customer queries and demands, phone calls, poor communication, no rest breaks and multi-tasking, amongst others.[60, 74, 75, 101-104] This could result in a decreased accuracy in checking prescriptions and the pharmacist switching between completely different tasks regardless of completeness, thus complicating and potentially decreasing both efficiency and quality of pharmacist work.[75] In this review, self-achievement appeared to be low in some studies due to workload pressure and a high perceived risk of errors, feeling 'not allowed' to make mistakes due to personal and third-party consequences, perceptions of low confidence and/or ability in clinical or management skills, and having confused feelings of personal responsibility for both patients and pharmacy business' wellbeing.[59, 60, 82, 87, 89, 100] Pharmacist clinical service performance was rated poorly in one UK study analysing self-care principles and a Brazilian service implementation study.[63, 71]

Extra-Role Role Stress Factors

The Extra-Role category relates to an individual's roles and responsibilities outside pharmacist roles, e.g. parenting. One major theme in the Extra-Role category included a perceived transience of jobs, in comparison to domestic external roles such as care-taking.[35, 70, 92, 100] This, combined with a perceived lack of work-life balance and reported excessive role strain, was associated with pharmacist turnover, and was also common reasoning for becoming free-lance "locum" pharmacists.[35, 60, 88, 89] Various social and lifestyle factors, interests, other careers and involvement in community and industry groups were also reported.[35, 60, 92]

Role Stress Types

The seven types of role stress were present in the data (see Table 2), and may cause positive or negative reactions in individuals within the role system.

Role Ambiguity

This was reported by four studies. Three of these associated role ambiguity with a lack of information or poor information handover from role partners. This usually resulted in extraneous work to clarify the situation.[69, 75, 78] One study reported role ambiguity associated with an initial implementation of professional pharmacy services.[72]

Role Conflict

Role Conflict was reported by twelve studies. It was associated with conflicting clinical and business roles, working hours unconducive to home or social responsibilities such as childcare, or a perception of continual multiple contradictory work demands, which could affect professional service provision.[60, 65, 78, 79, 89, 92, 100, 103] Pharmacists reported a preference to stay in 'professional' dispensary and counselling rooms in an attempt to preserve their professional identities, separated from the pharmacy retail sections associated with discount sales.[63, 65, 84, 102] On the other hand, lessening role conflict by decreasing pressure to perform sales roles was associated with increased job satisfaction in one study.[72]

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Role Incongruity

The main theme was a pharmacist perception that standards of care possible in workplaces was dangerously low compared to the quality required for patient safety and service efficacy.[33, 88, 89] Causes included: role expectations causing pharmacists to be 'trapped' in the dispensary,[89] lower levels of clinical skill required than expected,[33] and the goals of superiors (since non-pharmacist managers were said to be inconsiderate of pharmacists' professional and legal boundaries of work,[87] and financial rewards were prioritised rather than patient care).[80, 82, 87] Decreased quality of care was believed to cause physician colleague and patient derision.[80]

Role Overload

Role Overload was the most often mentioned role stress, reported by 23 studies, and was purportedly aggravated by service provision expectations.[59, 60, 76, 85, 89] This was associated with feeling "responsible for absolutely everything" in one study.[85] Although this depicted pharmacist autonomy, it could increase individual stress due to multiple duties towards patients, staff, pharmacy owners, the general public and pharmacy regulators.[59, 81, 102] Constant multi-tasking, concentrating on one task although overloaded, and slowing down the pace of their work were some of the ways pharmacists managed this role stress type, in an effort to maintain quality of care.[103] Pharmacists reporting role overload felt vulnerable and frustrated when additional organizational support was not available, regardless of position,[89] especially as they were more prone to errors[78] that were incompatible with their desired quality of work.[76, 86] However, adequate resources may cushion this effect on pharmacists who could otherwise feel "overwhelmed or distracted".[72] Although viewed positively, medication reviews were cited as contributing to role overload.[63]

1. Role Overqualification

Role Overqualification was reported by one study to be associated with dispensing roles: pharmacists felt that their clinical skills could be utilized more fully.[33]

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Role Underload

Role Underload was mentioned as a cognitive underload by five papers: dispensing and the community pharmacy sector was implicated perceptually as a lower status than clinical roles.[33, 60, 85, 87, 89] However, one individual reported "quiet" stores enabled the provision of medication use reviews, causing increased patient interaction that became enjoyable.[33]

Role Underqualification

Role Underqualification was identified in eight papers. This role stress was associated with a lack of training for newly qualified pharmacists in organisational management,[87] and preparation for services.[63, 71, 72] Strain was caused by underestimating professional service demand, neglecting to train both pharmacists and staff in time management, retail, and communication skills, and conflicting domestic responsibilities.[27, 59, 71, 78, 89] However one paper reported professional service training motivated some pharmacists to remain in their career, and was seen as necessary[89] in order to develop requisite knowledge and diagnostic, clinical and decision-making skills.[63, 71, 72, 78]

Role Strain

Role strain (defined as the subjective and individual negative experiences caused by role stress) was present throughout the data (see Table 3):

Physiological role strain responses

Physiological responses, or ill health caused by pharmacist work, seemed to be linked with working conditions in five papers, particularly work processes, workload and time limits. The most commonly cited short-term effect was stress and deterioration of mental health.[60, 79, 82, 89, 101]

Psychological role strain responses

Psychological responses to role strain were reported by fourteen papers. This included the tension associated with isolation, helplessness, bitterness, a sense of resignation to conflict, a low perception of self-achievement, feeling "frustrated and vulnerable" and "taken advantage of" because of inadequate work environments, and disrespected when seen merely as "shopkeepers". Increased stress was reported to be further associated with the uncertainty and increased workload

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caused by service provision, conflicting with the perceived monotony in repetitive dispensing tasks and related "lack of opportunity" to use clinical skills.[33, 59, 60, 72, 75, 78, 79, 81, 83, 85, 86, 88, 89, 100-102]

Social role strain responses

Fourteen papers reported dissatisfaction and turnover from roles, jobs and pharmacist careers. Dissatisfaction was associated with community pharmacy in two studies,[79, 100] and increased workloads, poor working conditions, unsatisfactory wages/staffing/autonomy, lack of "clinical satisfaction" in work, lack of "professional support" and insufficient perceived respect from role partners, including non-pharmacist managers/supervisors.[33, 59, 79, 83, 87-89, 91, 92, 100] It was worsened by perceived lack of resources, lower levels of patient care than personal standards allowed, the "mundane" nature of tasks contrary to their earlier expectations, and difficulty in owning their own pharmacies.[33, 79, 87, 91] General reasons for leaving positions, the community sector and careers were poor working conditions, insufficient rewards for inherent work-home conflict due to long working hours, poor perceived advancement of career possible and purportedly poor managerial treatment of pharmacists.[33, 59, 75, 79, 80, 82, 83, 87-89, 91, 92, 100, 102]

The full list of role stress factors, role stress types and role strains with their definitions, examples and references are in Appendix 4.

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345 Figure 1: PRISMA flow diagram [61]

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346 Table 1. Role stress factors

INDIVIDUAL FACTORS	***Studies*** (see Appendix 3 for full list)
Age	35, 59, 64, 71, 77, 79, 83, 86, 89, 92, 100
Education level	71, 72
Ethics	35, 70, 72, 81, 85, 86, 101
Ethnicity	70, 92
Gender	79, 83, 89, 92, 100
Pre-existing health status	35, 59, 101
Career commitment	35, 59, 89, 92, 100
Organisational commitment	60, 76, 87-89, 92
Role commitment	72, 89, 101
Professional commitment	35, 63, 64, 68, 70-72, 89, 100-102
Reference groups	63, 72, 76, 88
Generalised other	27, 66-68, 82, 85, 100
Role affinity	33, 35, 63, 64, 68, 79, 81-83, 85, 89, 100
Role orientation	27, 35, 64, 65, 68, 69, 72, 79, 81-83, 85, 89, 100, 103
Role performance	27, 33, 35, 59, 60, 64, 71, 72, 74, 85, 86, 88, 89, 100-102

INTERPERSONAL INTERACTIONS	***Studies***
Patient-pharmacist role set/dyad	27, 33, 35, 63-73, 75, 76, 78, 79, 81-83, 85, 87, 89, 91, 92, 100-103
Doctor-pharmacist role set/dyad	27, 59, 63-65, 69-76, 78, 82, 83, 85, 89, 91, 105
Allied Health practitioners – pharmacist role set/dyad	63, 69, 70, 73, 82, 103
Pharmacy staff – pharmacist role set/dyad	59, 63, 67-70, 72, 74-76, 79, 81, 85, 87, 88, 91, 101-103
Supervisor-pharmacist role set/dyad	27, 33, 35, 70, 76, 78, 79, 82, 87-89, 92, 100, 101
Pharmacist-pharmacist role set/dyad	35, 64, 69, 70, 74, 75, 78, 82, 85, 87, 88, 101
Industry representative – pharmacist role set/dyad	64, 72, 91
Professional association – pharmacist role set/dyad	33, 70, 82, 91
Government bodies – pharmacist role set/dyad	33, 59, 64, 65, 68, 72, 74, 81, 83, 87, 89, 91, 100, 101
Pharmacy Organisation - pharmacist role set/dyad	27, 33, 63, 70, 72, 76, 78, 79, 82, 87-89, 100, 101
Pharmacy staff – patient role set/dyad	63, 65, 67, 70, 72, 78, 102, 103
Doctor – patient role set/dyad	64, 65, 72

SOCIAL SETTING FACTORS	***Studies***
Culture Sub-factor: Climate	27, 33, 35, 63, 64, 70, 75, 76, 78, 79, 82, 87, 89, 101, 103
Values Sub-factors: Discount/service models	27, 33, 63, 64, 70, 72, 78, 82, 87, 88, 91, 101
Status & power Sub-factors: "Pharmacy" brand, "pharmacist" brand, employment status *(part-time, full-time, self-determined)*, role occupancy *(locum/relief, manager, owner/proprietor, staff)*, autonomy	27, 33, 35, 59, 60, 63, 64, 69, 72, 75, 76, 78, 79, 81-83, 85, 87-89, 91, 92, 100-102
Sanctions Sub-factors: Wages, other benefits, negative sanctions	27, 33, 35, 59, 63, 64, 68, 72, 74, 81-83, 85, 87, 89, 91, 92, 100
Resources Sub-factors: Physical environment *(dispensary, consulting room, sales area, workflow, protocols & protocol adherence)*, equipment *(IT, specialised machines)*, staffing, multilingual support, clinical references, stock availability	27, 33, 35, 63, 64, 66, 68, 69, 71-74, 78-84, 88, 89, 92, 100, 101
Norms Sub-factor: career advancement possible, alternate job perception, hours, work activities, workload, physical location *(rural, regional, metropolitan/urban)*, pharmacy type *(independent, chain, multiple/supermarket pharmacy)*	27, 33, 35, 59, 62-69, 71-73, 75, 76, 78, 79, 81-83, 85, 87-89, 91, 92, 100-103

EXTRA-ROLE FACTORS	***Studies***
Work-home roles Sub-factors: marital status, number of children, view of own career importance versus partner's career	35, 59, 70, 87-89, 92, 100
Social roles	35, 88, 92, 100
Other roles	35, 78, 85, 100

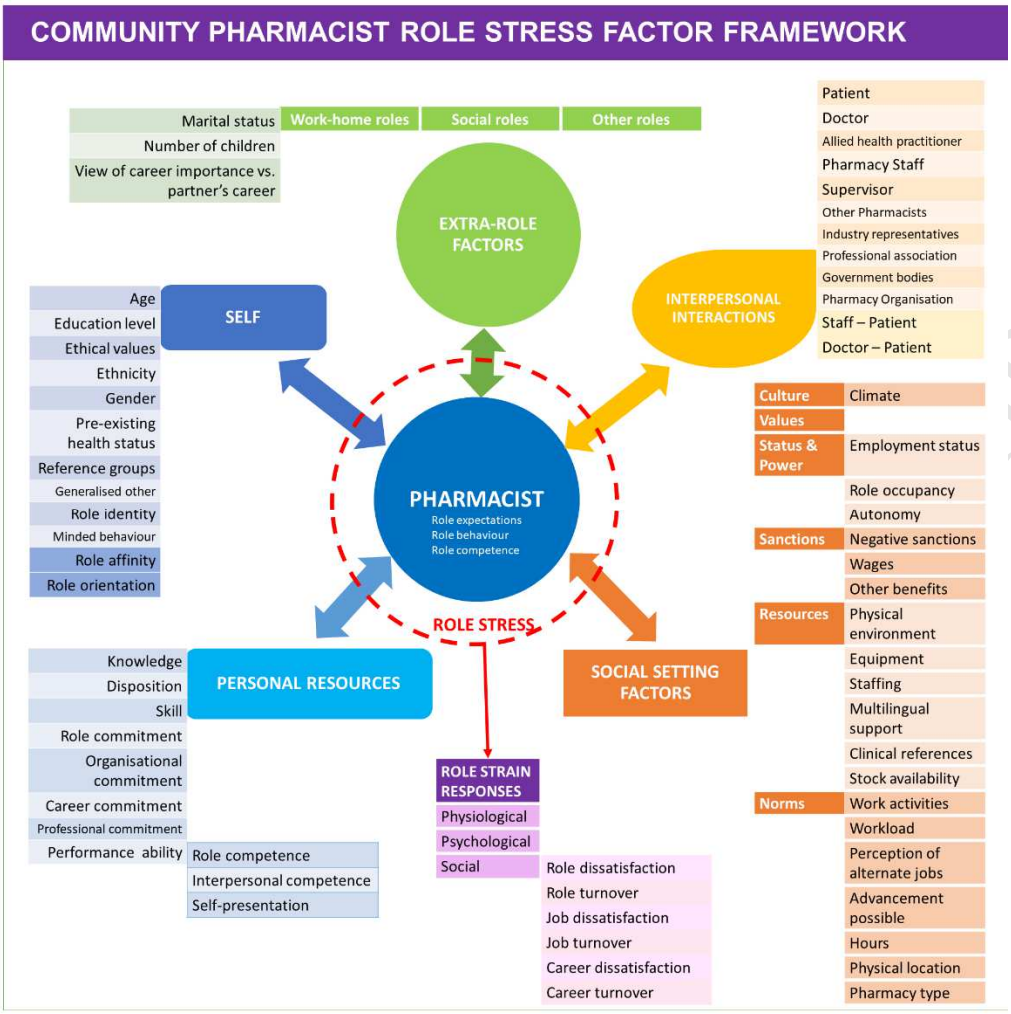
347 Table 2. Role stress types

ROLE STRESS	***Studies***	**ROLE STRESS**	***Studies***
Role ambiguity	63, 66, 68, 72, 73, 75, 81	Role overload	27, 33, 35, 59, 60, 68, 69, 74-76, 78, 79, 81-83, 85, 87, 100, 103
Role conflict	35, 63, 64, 68, 76, 79, 82, 83, 89, 101	Role underload	33, 83, 87, 89, 92
Role incongruity	33, 35, 63, 64, 68, 79-82, 87, 100	Role overqualification	33, 87, 100
		Role underqualification	27, 59, 63, 71-73, 81, 83, 85, 87

348 Table 3. Role strain responses

ROLE STRAINS	**Studies**	***Social Subtypes***	**Studies**
Physiological	33, 35, 60, 74-76, 78, 79, 81, 83, 85-89, 91, 100-102	Role dissatisfaction	33, 35, 59, 72, 83, 85
Psychological	33, 35, 60, 63, 72, 74-76, 78, 79, 81, 83, 85-89, 91, 100-102	Role turnover	33, 35, 87, 92, 100, 102
Social	79, 83, 85, 100	Job dissatisfaction	33, 35, 72, 76, 79, 83, 87, 92, 100
		Job turnover	33, 35, 75, 83, 87-89, 100
		Career dissatisfaction	79, 91, 100
		Career turnover	33, 59, 87, 91, 100

Figure 2: Community Pharmacist Role Stress Factor Framework



Internal demands (Self, Personal Resources) are displayed in blue. External demands (Social Setting factors, Interpersonal Interactions) in role are displayed in warm tones. Extra-Role factors comprise of external demands outside the pharmacist role. Role Stress is represented in red, and Role Strain responses are represented in purple.

As a result of this review, the depicted framework was created. It portrays the individual community pharmacist at its centre, who possesses their own perception of the role's prescriptions,[41] behaviour and competencies. The large arrows represent the interplay between the individual and factors that affect their work: internal demands, consisting of the self (perceptual and objective factors) and personal resources required to successfully perform the role; and external demands, from their role partner interactions, factors within the pharmacy workplace, and demands which exist outside of the individual pharmacist's role, e.g. family caring responsibilities, voluntary community positions, and social support roles. Subjective role stresses arise from interaction between the factors in these domains (represented by the red dotted line), which can be both positive and negative influences on

the individual's work. However, when these role stresses are perceived by the individual negatively, the following role strain responses (in purple) were noted: physiological effects, psychological responses, and social withdrawal from their role, job or career either internally (i.e. dissatisfaction) or externally (i.e. turnover). Wording of the framework is purposefully simplistic, although Mead's concepts have also been used: namely 'generalised other' (what an individual thinks others perceive of them), 'minded behaviour' (how an individual acts when they believe others are watching them), and 'reference groups' (social groups an individual refers to in when occupying their role, in order to understand their social position).[41]

The strength of the Community Pharmacist Role Stress and Strain Framework is that its results can be interpreted using Social Exchange theory, explaining multiple factors affecting pharmacist actions using one overarching theoretical structure. It can be used to monitor role systems for pharmacists, and verify their subjective experiences by analysing role stresses, strains and factors that can be measured with previously validated scales.

DISCUSSION

The framework produced from this scoping review provides a map of factors that can cause a pharmacist to reassess the personal price of their role. Modification of factors causing role strain can be accomplished by social exchange theory principles to influence job embeddedness.

The advent of cognitive pharmacy services is seen as a positive role development for most pharmacists. However, the implementation of such role extension requires re-negotiation of roles with role partners (i.e. role making). The ensuing role ambiguity for pharmacists and their role partners is referred to by many of the studies,[76, 106-109] and one paper found role ambiguity had increased job satisfaction, suggesting that these pharmacists may have been cognitively underloaded and therefore enjoyed the challenge presented by role-making.[42] In the same way, according to role theory, the solution to role strain is to balance role stresses, making the role acceptable to the individual. Role stresses frame different roles in society, and thus should not

necessarily be removed to decrease role strain. For example, erasing the well-documented business-clinical role conflict for community pharmacists[18, 45, 48, 110, 111] would result in reduced pharmacist accessibility. Instead, the concept of role price is important here: benefits and individual motivations for the role should be analysed. When weighing role price, if individuals find that the role is overly costly to their wellbeing, they may employ coping strategies such as turnover of work roles, stable jobs or career.[33, 35, 41, 88] The results of this literature review appear to agree with this: two common reasons for turnover were role overload and job dissatisfaction. Since job satisfaction is a spectrum, rather than a linear relationship between the individual and their job conditions,[35] job satisfaction could be conceptualised as an indicator of the individual perception of job role price.

In seventeen of the analysed studies, pharmacists reported role overload. It is often listed as one of the major barriers in service provision.[8, 19, 29, 42, 95, 112] Reasons for this could be explained using role theory, which states that role overload is a function of the number of subroles a role occupant holds.[41] One qualitative study found that pharmacists perceived themselves to have at least 8 subroles,[18] and a mixed methods study studying extended roles for pharmacists in Canada identified 31 clinical subroles.[2] This multitude of subroles may be compounded by the fact that pharmacists often work without other pharmacists.[13, 64, 113] In certain countries, legislation restricts the delegation of certain tasks, increasing individual workload,[68, 81] while pharmacists are expected to supervise the work of pharmacy support staff to ensure appropriate service delivery.[114, 115] Multi-tasking, interruptions and distractions from various role partners are reported as the norm in community pharmacy settings.[83, 103, 116-119] Cognitive and quantitative overload[120, 121] may contribute to an apparent inability to change work habits from a predominantly product supply role to clinical and service roles.

Furthermore, community pharmacists (including managers and owners) appear to run the pharmacy store concurrently with their professional tasks, often without other pharmacists to share the burden,[17, 18, 48, 62, 120, 122, 123] sometimes at the expense of rest breaks required for mental health and

prevention of errors.[14, 35, 79, 89, 124] When organisational values are inconsistent with professional obligations, these additional workplace expectations may result in role conflict and incongruity.[45, 125, 126] Increased and protected autonomy for clinical decisions, and role specialisation could enable pharmacists to navigate these role stresses more readily, without transgressing ethical values, personal preferences and professional responsibilities.

Individual education qualifications were not often mentioned in the data, surprisingly, and may be due to the majority of the studies being performed in the UK, where most pharmacists do not undertake doctoral qualifications, in contrast to the USA, where pharmacists must have a PharmD in order to practise.[127-130]

Ethnicity was not analysed in relation with role stress or strain in these studies. This is because the two studies reporting the majority of participants named them as a 'Caucasian/white' classification (an out-dated and non-scientific nomenclature for grouping races based on skin colouration) rather than denoting actual ethnic minorities.[131-133] However, limited research reports the influence of ethnicity: one UK study reported different working patterns for pharmacists of Asian and Indian ethnicity,[134] and differences in wage and salary earnings between "white", Hispanic and black pharmacists existed in South Florida, USA,[135] implying patterns of subjective role stresses/strains may exist for different ethnic groups.

The high number of interpersonal interactions involved in pharmacist work may also add to their role strain.[41, 62] Each of the nine direct-interaction role sets and two indirect-interaction role sets involves differing role expectations, and each role partner typically seeks different outcomes from the interaction.[41, 42] Although this review did not have the scope to include intermediary parties who present to the pharmacist on behalf of a role partner, several are known to exist: e.g. carers or parents of children,[136, 137] translators (whether qualified or not)[66, 138]; and practice nurses who relay messages from doctors.[139] Pharmacists, who report feeling like they "have to do everything" to take care of patients,[35, 60] do not appear to take their responsibilities lightly, especially with the rise of

pharmaceutical care and collaborative patient care – which require additional time and negotiation skills.[140] This could be compounded by the customary isolation of pharmacists from other health professions, although new initiatives to increase collaboration between healthcare professionals could change this.[65, 69, 141-143]

Compared to corporate workers, it appears that pharmacists are reluctant to leave their jobs even when they hold an intention to do so. One UK study reported 7.1% of pharmacists who reported a desire to leave pharmacy practice (n=1680) had done so 2 years later,[144] and a US study analysing data from 1983-1997 reported that independent/small chain and large chain pharmacies had mean ± S.D. annual pharmacist turnover rates of 11.8 ± 3.20% and 9.4 ± 3.06% respectively.[34] This is a low figure compared to organisational psychology research, which suggests 50% of workers who express an intention to leave their jobs actually do so.[145] This is significant for pharmacist employers: the results of this review suggest that harsh working conditions are attributed to the employer as an indicator of employer consideration, and may result in the conclusion that their employers care little for pharmacists as individuals.[35, 92] It has been proposed that job embeddedness, rather than turnover intention, is a more appropriate measure to understand the likelihood of pharmacists leaving their jobs, since it measures organisational attachment and therefore reluctance to leave jobs.[146] Job embeddedness includes factors external to the individual, such as organisational recognition of employee community and social responsibilities,[147] further confirming the importance of including extra-role factors within the framework. The top reasons given in one U.S. study for remaining in a community pharmacy job (i.e. fair salary, relationships with colleagues), compared with the top ranked reasons for leaving (i.e. wanting 'a change' and increased stress/workload),[12, 146] highlight the importance of healthy organisational climates, provision of support from pharmacy management and wages in proportion to individual pharmacist responsibility. One study reports that pharmacists were willing to be paid less for a reduced number of role expectations.[100] Others reinforce the notion that providing patient-facing professional services increase pharmacist job satisfaction.[23, 44, 79, 89, 113, 120, 144, 148-150] Therefore, if professional pharmacy services could be provided

in a method that does not cause pharmacist role strain, provision of cognitive services could increase. To facilitate the full scope of pharmacist practice in the community setting, *decreasing* the individual role price of being a community pharmacist providing services could be considered.

It should be noted that organisational settings vary greatly in the countries included in this review. The 18 studies from the UK setting may have skewed the results in this regard, as consequences of the 2005 UK pharmacy market deregulation may be of interest to their researchers. Canada and USA also have unregulated pharmacy markets in which non-pharmacists may own pharmacy businesses, and private insurance covers a large portion of pharmacy funding for services. In Germany, health insurance is compulsory for the population but pharmacies must be owned by pharmacists and follow European Union rules. Australia and New Zealand have regulated pharmacy markets where government funding pays the bulk of services. These differences in pharmacy ownership, funding and regulation create differences in pharmacy organisation structures, which influence pharmacist working experiences greatly (e.g. corporate UK/US pharmacy structures result in decreased autonomy for its pharmacists and variation in requirements for government versus private health insurance funding).[88, 90, 94, 151-153]

The implications of this review are relevant for pharmacist employers, particularly large pharmacy organisations and corporations (who are often mentioned throughout these studies as perhaps having the most difficult working conditions[19, 99, 152-155]) and, thus could possess the greatest potential to decrease role conflicts inherent in community pharmacy. As some pharmacists move away from the 'non-professional' work of selling products,[44, 156] increasing the autonomy required for professional work is proven to increase job satisfaction[43, 44, 125] and may also aid decreasing the strain of role modification required for cognitive service provision in the community setting. Future research directions could include investigation into different pharmacist role stress factors, such as work activities including service provision, dyadic interactions and identifying current gaps in community pharmacist sociological research. This could involve qualitative work to validate this

framework and map community pharmacist role systems in different countries, quantitative research to determine role stress and strain types present in the sector (which enables identification of factors causing excessive role strain), and trials that apply evidence-based strategies rooted in social exchange research in the areas of organisational management, discourse analysis, and behavioural strategies for pharmacists and role partners, thus typifying and providing solutions to challenges that community pharmacists face internally and externally. The methodology used to create this framework could also be used in other professions facing similar anomalies and challenges in practitioner behaviour, and is particularly useful for enabling the implementation of social science research progress into industries that have not traditionally used social sciences to explain human phenomena. Researchers desiring to investigate these should take care to examine the definitions of concepts used, as they may vary.

Limitations

This scoping review used qualitative data which is highly subjective, and may not be generalizable. One reviewer performed the literature review and extracted data. Further research is planned to validate the framework.

Funding & conflicts of interest

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. The authors have no competing interests to declare.

Conclusions

This review takes into account a wide range of factors affecting pharmacist role stress and strain using a framework from social science. It describes the individual attributes and resources which influence community pharmacist work, and the interactions with at least 10 role partners required to perform their role. Their social setting, the pharmacy workplace, is a rich and complicated environment which changes frequently due to the interplay of the people within it. Furthermore, pharmacists are individuals who often work long hours or alone, with heavy burdens of personal responsibility, professional considerations and business concerns. Their duties external to their

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workplaces can cause subjective conflict. These factors can be taken into account by pharmacy organisations that desire to retain pharmacists of high calibre, and by regulatory bodies who seek to facilitate the full scope of community pharmacy practice.

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APPENDIX 1: SEARCH STRATEGIES USED

Pubmed	((((("organizational culture"[Mesh] OR "attitude of health personnel"[Mesh] OR "pharmaceutical services/manpower"[Mesh] OR "pharmacies/statistics and numerical data"[Mesh] OR workload[Mesh] OR "communication"[Mesh] OR "patient care/standards"[Mesh] OR "patient handoff/organization and administration"[Mesh] OR "patient handoff/standards"[Mesh] OR "personnel staffing and scheduling"[Mesh] OR "stress, psychological/etiology"[Mesh] OR "self concept"[Mesh] OR "professional role"[Mesh])) AND ("community pharmacy services/organization and administration"[Mesh] OR "community pharmacy services/standards"[Mesh] OR "pharmaceutical services/organization and administration"[Mesh] OR "pharmacists/organization and administration"[Mesh] OR "pharmacists/psychology"[Mesh] OR "pharmacists/standards"[Mesh] OR "Pharmacists/supply and distribution"[Mesh])) AND ("medication errors/psychology"[Mesh] OR "medication errors/statistics and numerical data"[Mesh] OR "job satisfaction"[Mesh] OR "Professional-patient relations"[Mesh] OR "quality of health care"[Mesh] OR "quality of life"[Mesh] OR "task performance and analysis"[Mesh] OR "stress, psychological/psychology"[Mesh] OR "stress, psychological/epidemiology"[Mesh] OR "burnout, professional/epidemiology"[Mesh] OR "career choice"[Mesh] OR "personnel turnover/statistics and numerical data"[Mesh] OR "career mobility"[Mesh])) AND English[Language]	3212 (exported 200 at a time, 17 files)
Scopus	((TITLE-ABS-KEY ((*"safety culture"*) OR *workload* OR *handoffs* OR (*"human factors"*) OR (*"organizational identification"*) OR (*"job turnover intention"*) OR (*"construed external image"*) OR *organizations* OR (*"work-home conflict"*) OR (*"role stressor"*) OR (*"role stress"*)) OR TITLE-ABS-KEY ((*"role perception"*) OR (*"professional identity"*) OR (*"self-perception"*) OR (*"role expansion"*) OR (*"organizational culture"*) OR (*"personality trait"*) OR (*"patient perceptions"*)))) AND (TITLE-ABS-KEY ((*"community pharmacy"*) OR *pharmacists* OR (*"pharmacist workforce"*) OR (*"pharmacy practice research"*) OR (*"pharmacy roles"*) OR (*"pharmacist roles"*) OR (*"Pharmacists' personality traits"*) OR (*"pharmacy culture"*) OR (*"Pharmacist attribute"*))) AND ((TITLE-ABS-KEY ((*"quality related events"*) OR *satisfaction* OR (*"job satisfaction"*) OR *stress* OR (*"Job stress"*) OR (*"work stress"*) OR (*"patient safety"*) OR *error* OR *overload* OR (*"medication safety"*) OR (*"pharmaceutical care"*) OR *dissatisfaction*) OR TITLE-ABS-KEY ((*"interpersonal inter actions"*) OR (*"patient-pharmacist interaction"*) OR (*"role conflict"*) OR (*"role ambiguity"*) OR (*"role overload"*) OR *attrition* OR (*"intentions to quit"*) OR (*"role strain"*)))) AND (LIMIT-TO (SUBJAREA , *"PHAR"*) OR LIMIT-TO (SUBJAREA , *"MEDI"*) OR LIMIT-TO (SUBJAREA , *"HEAL"*) OR LIMIT-TO (SUBJAREA , *"BIOC"*) OR LIMIT-TO (SUBJAREA , *"BUSI"*)) AND (LIMIT-TO (LANGUAGE , *"English"*)) AND (LIMIT-TO (DOCTYPE, "ar") OR LIMIT-TO (DOCTYPE, "cp"), OR LIMIT-TO (DOCTYPE, "ip"))	2129 (Exported first 2000 sorted by date newest, then first 129 sorted by date oldest) Limited to (1) Pharmacology, Toxicology and Pharmaceutics, (2) Medicine, (3) Health Professions, (4) Biochemistry, Genetics and molecular biology, and (5) English, (6) articles, conference paper, and articles in press
Web of Science	TS=("safety culture" OR workload OR handoffs OR "human factors" OR "organizational identification" OR "job turnover intention" OR "construed external image" OR organizations OR "work-home conflict" OR "role stressor" OR "self-perception" OR "role expansion" OR "organizational culture" OR "personality trait" OR "patient perceptions") AND TS=("community pharmacy" OR pharmacists OR "pharmacist workforce" OR "pharmacy practice research" OR "pharmacy roles" OR "pharmacist roles" OR "pharmacists' personality traits" OR "pharmacy culture" OR "Pharmacist attribute") AND TS=("quality related events" OR satisfaction OR "job satisfaction" OR stress or "job stress" OR "work stress" Or "patient safety" OR error OR overload OR "medication safety" OR "pharmaceutical care" OR dissatisfaction OR "interpersonal interactions" OR "patient-pharmacist interaction" OR "role conflict" OR "role ambiguity" OR "role overload" OR attrition OR "intention* to quit" OR "role strain")	80 (initially got 2387 records) Limited it to article or review or clinical trial, and excluded Medline database, the Korean and Russian databases.

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APPENDIX 2: SCREENING CRITERIA

Inclusion criteria:

1. Qualitative studies and qualitative components of mixed method studies reporting factors associated with role stresses or role strains in pharmacists practising in the community pharmacy setting.
2. The aim/objective of study analyses or explores a role stress or role strain in community pharmacy, or factors causing these
3. The publishing date is from 1990 to January 2019
4. Results from community pharmacists are separately listed from other sectors of pharmacy

Role stress factor terms used:

- Interpersonal interactions
  - Pharmacist-patient role set
  - Dr-pharmacist role set
  - Pharmacist-management role set
  - Pharmacist-coworker role sets
  - Pharmacist-pharmacy staff role set
  - Govt-pharmacist role set
- Social setting factors
  - Environmental aspects
  - Level of compensation
  - Advancement available
  - Ease of finding an acceptable alternative job
  - Working hours
  - Autonomy allowed
- Individual factors
  - Role affinity
  - Role orientation (including counsellor role orientation)
  - Health
  - Ethnicity
  - Age
  - Commitment to role, organisation and career
- Extra-role factors
  - Work-home life
  - Social life and other commitments
- Role stress types:
  - Role conflict: product vs patient centered, business vs clinical, dispensing vs service
  - Role incongruity: poor personality-role fit
  - Role overload – too many role expectations in time available
  - Role underload – not enough role expectations in time available
  - Role overqualification
  - Role underqualification
  - Role ambiguity

Role strain terms of interest:

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- Social responses
    - Withdrawal from interaction, decreased involvement with colleagues and organisation
    - Intention to quit/turnover
    - Job dissatisfaction
- Psychological responses (e.g. stress, anxiety, tension, irritation, resentment, depression)
- Physiological responses (e.g. hypertension, IHD, headaches, dizziness, nausea, fatigue)

Exclusion criteria

1. Study type: Not original studies, including commentaries, opinion, text and literature reviews.
2. Setting: Non-community pharmacies
3. Population: Not community pharmacists
4. Outcomes: Studies not reporting factors associated with role stress, (e.g. issues caused by interpersonal interaction, social setting, environmental aspects, level of compensation, advancement available, ease of finding an acceptable alternative job, working hours, autonomy, individual role affinity/orientation, health/ethnicity/age, commitment to role/organisation/career, work-home and leisure time), OR role strain (intention to quit/turnover, job dissatisfaction, role conflict, role incongruity, role overload, role overqualification, role underqualification, role ambiguity, health effects including social, psychological and physiological symptoms)
5. Languages: Studies not written in English
6. Objective of study is not about community pharmacy role stress or strain factors
7. The publishing date is before the year 1990
8. Community pharmacy sector statistics/outcomes are not separately listed from other sectors of pharmacy

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APPENDIX 3: STUDIES INCLUDED IN QUALITATIVE ANALYSIS

Author(s), year	Study title	Study design	QATSDD Quality score	Country	Recruited sample size	Response rate	Data collection method
Rapport, Doel & Jerzembek, 2009.	*"Convenient space" or "a tight squeeze": Insider views on the community pharmacy.*	QL	36/42	UK	16 pharmacists (5 independent pharmacies, 5 dedicated pharmacies, 5 "multiple" pharmacies, and 1 unspecified pharmacy type)	42%	Self-report: 2 page biography about workplace + 5 photographs
~~Harvey *et al.*, 2011.*~~	~~*A constructivist approach? using formative evaluation to inform the electronic prescription service implementation in primary care, England.*~~	~~QL~~	~~19/42~~	~~UK~~	~~8 pharmacies~~	~~Purposively sampled~~	~~Ethnographic: observation, shadowing and interviewing of staff~~
Chui, Mott & Maxwell, 2012.	*A qualitative assessment of a community pharmacy cognitive pharmaceutical services program, using a work system approach.*	QL	27/42	USA	8 pharmacists from pharmacies involved in a private research program	Purposively sampled	Semi-structured interviews
Sinopolou, Summerfield & Rutter, 2017	*A qualitative study on community pharmacists' decision-making process when making a diagnosis*	QL	28/42	UK	8 pharmacists	Purposively sampled	Semi-structured interviews (face-to-face)
Weiss *et al.*, 2007.	*Access to multilingual medication instructions at New York City pharmacies*	MM	26/48	USA	200 pharmacists	76.0%	Phone surveys
Stevenson, 2014.	*Achieving visibility? Use of non-verbal communication in interactions between patients and pharmacists who do not share a common language.*	QL	24/42	UK	6 pharmacists, 3 pharmacy assistants and 12 patients/carers	66.7%	12 video-recorded consultations involving translation
Hattingh, King & Smith, 2009.	*An evaluation of the integration of standards and guidelines in community pharmacy practices.*	QL	32/42	Australia	17 community pharmacies	13.7% + 6 pharmacies purposively selected	Semi-structured interview
McCann, Adair & Hughes, 2009.	*An exploration of work-related stress in Northern Ireland community pharmacy: a qualitative study.*	QL	26/42	UK	17 community pharmacists	1.0%	Semi-structured face-to-face interview, audiotaped
Phipps & Ashcroft, 2012.	*An investigation of occupational subgroups with respect to patient safety culture.*	MM	32/48	UK	860 community pharmacists	43.0%	Mail survey: free text responses about work characteristics and patient safety
McCann *et al.*, 2009.	*Assessing job satisfaction and stress among pharmacists in Northern Ireland.*	MM	27/48	UK	766 pharmacists	38.9%	Mail survey: free text section
Schulz & Baldwin, 1990.	*Chain pharmacist turnover.*	QL	21/42	USA	34 community pharmacists working in chain pharmacies	Purposively sampled	Semi-structured interviews
Urban *et al.*, 2013.	*Communicating medication changes to community pharmacy post-discharge: the good, the bad, and the improvements.*	QL	24/42	UK	14 pharmacists	11.7%	Semi-structured interview

Lea *et al.*, 2016.	*Delegation: a solution to the workload problem? Observations and interviews with community pharmacists in England.*	QL	27/42	UK	11 pharmacists	12.2%	Observation, semi-structured interviews
Gidman *et al.*, 2009.	*Delivering health care through community pharmacies: Are working conditions deterring female pharmacists' participation?*	MM	27/48	UK	40 female community pharmacists >30 years old	Purposively sampled	Q-methodology
Lea *et al.*, 2015.	*Describing interruptions, multi-tasking and task-switching in community pharmacy: a qualitative study in England.*	QL	23/42	UK	11 pharmacists in 3 pharmacies	12.2%	Ethnographic: observation, shadowing and interviewing (10 shifts + 5 shifts on consecutive days)
Scahill *et al.*, 2010.	*Describing the organisational culture of a selection of community pharmacies using a tool borrowed from social science.*	QL	31/42	New Zealand	6 working pharmacist owners, 1 pharmacist manager, 2 pharmacy interns, 1 technician	71.4%	2-hour concept mapping session, validated online
Gidman *et al.*, 2007.	*Does community pharmacy offer women family-friendly working conditions and equal opportunities? the accounts of female community pharmacists over the age of 30.*	QL	30/42	UK	30 female community pharmacists >30 years old	Purposively sampled from a recruitment letter with 40% response rate	30 semi-structured face-to-face interviews
Odukoya & Chui, 2013.	*E-Prescribing: Characterisation of patient safety hazards in community pharmacies using a sociotechnical systems approach.*	QL	33/42	USA	14 community pharmacists & 16 technicians in 7 community pharmacies that processed ≥10 e-prescriptions daily	75.0%	Observations, think-aloud protocols and group interviews (audio recorded)
Dosea *et al.*, 2017	*Establishment, Implementation, and Consolidation of Clinical Pharmacy Services in Community Pharmacies: Perceptions of a Group of Pharmacies*	QL	23/42	Brazil	11 pharmacists	Convenience sample, not reported	3 focus groups of 6 participants held in 2012, 2013 and 2014; only a portion participated in more than 1 focus group
Patton *et al.*, 2018	*Expanding the clinical role of community pharmacy: A qualitative ethnographic study of medication reviews in Ontario, Canada*	QL	30/42	Canada	4 pharmacies	Purposive sampling	Observation, ethnographic interviews and observations, semi-structured interviews
Chui & Stone, 2014.	*Exploring information chaos in community pharmacy handoffs.*	QL	25/42	USA	8 pharmacists who "float between different pharmacy locations or work in a pharmacy staffed with more than 2 full-time pharmacists"	Purposively sampled	Semi-structured interview, audiotaped
Harvey *et al.* 2015.	*Exploring safety systems for dispensing in community pharmacies: focusing on how staff relate to*	QL	31/42	UK	15 community pharmacies in England	Purposively sampled	Observations, shadowing, 38 semi-structured interviews

	organizational components.						
Shann & Hassell, 2006.	*Flexible working: understanding the locum pharmacist in Great Britain.*	QL	28/42	UK	34 locum community pharmacists, 8 and 6 locum community pharmacists	Purposively sampled	Semi-structured phone interviews, 2 focus groups
Pioch & Schmidt, 2001.	*German retail pharmacies – - regulation, professional identity and commercial differentiation.*	QL	20/42	Germany	9 pharmacist owners, 2 staff pharmacists, 1 pharmaceutical engineer, 1 commercial manager; 11 pharmacies observed	Purposively sampled	Grounded theory: Observations, interviews
Jacobs *et al.*, 2013.	*Identifying and managing performance concerns in community pharmacists in the UK.*	QL	28/42	UK	6 superintendent pharmacists, 3 training/professional development managers, 1 employer's pharmacist representative, 7 independent pharmacy owner/managers, 3 locum agency recruitment managers	Purposively sampled	20 semi-structured phone interviews from 10 multiples/supermarkets, 7 independents/small chains, 3 locum agencies
Gidman, 2011.	*Increasing community pharmacy workloads in England: causes and consequences.*	QL	29/42	UK	30 female community pharmacists, 29 male community pharmacists	Purposive sampled from recruitment with 12.5% response rate	Semi-structured face-to-face interviews
Hermansyah, Sainsbury & Krass, 2017.	*Investigating influences on current community pharmacy practice at micro, meso, and macro levels.*	QL	34/42	Australia	27 stakeholders in community pharmacy practice (21 pharmacy background, 6 non-pharmacy background)	Purposively sampled	Semi-structured interviews (face-to-face, phone, Skype)
Austin, Gregory & Martin, 2010.	*Pharmacists' experience of conflict in community practice.*	QL	24/42	Canada	41 pharmacists working 35+ hours/week in the same pharmacy	Purposively sampled	10-day work diaries, focus groups
McDonald *et al.* 2010.	*Professional status in a changing world: the case of medicines use reviews in English community pharmacy.*	QL	21/42	UK	10 independent/owner pharmacists, 6 independent staff pharmacists, 20 "multiples" staff pharmacists, 13 locum pharmacists	Purposively sampled	Semi-structured interviews (face-to-face, phone)
Ferguson, Ashcroft & Hassell, 2011.	*Qualitative insights into job satisfaction and dissatisfaction with management among community and hospital pharmacists.*	QL	28/42	UK	11 community pharmacists, 15 hospital pharmacists	Purposively sampled	Semi-structured interviews (face-to-face, phone)

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Thompson & Bidwell, 2015.	*Space, time, and emotion in the community pharmacy.*	QL	32/42	New Zealand	20 community pharmacists & 5 focus groups (total 27 public participants)	Pharmacists purposively sampled; general public recruited from community groups	Face-to-face interviews, focus groups
Bond *et al.*, 2008.	*The effect of the new community pharmacy contract on the community pharmacy workforce.*	MM	30/48	UK	40 community pharmacists	71%	Focus groups in 4 sites, telephone interviews at 1 site
Family, Weiss, & Sutton, 2013.	*The effects of mental workload on community pharmacists' ability to detect dispensing errors.*	MM	26/48	UK	15 community pharmacists	Purposively sampled	Mental workload diary, semi-structured interviews
Gidman *et al.*, 2007.	*The impact of increasing workloads and role expansion on female community pharmacists in the United Kingdom.*	QL	30/42	UK	30 female community pharmacists >30 years	Purposive sampled	30 semi-structured face-to-face interviews
Lester & Chui, 2016.	*Using link analysis to explore the impact of the physical environment on pharmacist tasks.*	QL	23/42	USA	1 pharmacy (2 pharmacists and 3 technicians)	Purposively sampled	Direct observation
Laetitia Hattingh *et al.*, 2015	*Utilization of community pharmacy space to enhance privacy: a qualitative study*	QL	28/42	Australia	25 pharmacists	38%	Semi-structured interviews
Eden, Schafheutle & Hassell, 2009.	*Workload pressure among recently qualified pharmacists: An exploratory study of intentions to leave the profession.*	QL	22/42	UK	12 pharmacists who had expressed an intention to leave pharmacy	33.3%	Semi-structured phone interviews

959 MM = mixed method study design, QL= qualitative study design

960 *Excluded as QATSDD score was below 50%

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APPENDIX 4: ROLE STRESS FACTORS, DEFINITIONS & EXAMPLES

ROLE STRESS FACTORS: Individual Attributes Category

Factors	Definition	Example
Age	The age of the individual.	"…younger participants appeared somewhat more comfortable with conflict and recognized its value/ importance in improving the quality of patient care and health outcomes. "In contrast, older pharmacists appeared somewhat resigned to the reality of conflict as part of day-to-day practice, even if they personally did not feel it was necessary, helpful, or beneficial."[86]
Education level	The highest level of education completed by the individual.	"Basically, what it means is if they've already told me what they're actually using and I've got nothing else in my arsenal, I would be more likely to then refer them because I would feel then that I would be letting them down if I didn't. [..] I don't really have anything else up my sleeve apart from referral, that's the reason."[71]
Ethics	The personal values of the individual without reference to their profession.	"'Bad' locums were portrayed as only ever working in 'nice' stores, which included stores with low prescription volumes or stores without 'undesirable' customer groups; bad locums practiced unethically and were lazy."[35]
Ethnicity	Their ethnic background or culture which the individual identifies themselves as.	"[Good organisational culture is that] Employment occurs from ethnic groups appropriate to the business organization…"[70]
Gender	The sex the individual identifies as.	"This confirms a previous finding that discriminatory employment practices in community pharmacy have, in some instances, forced some female community pharmacists into lower paid, lower status roles. Specific examples of discriminatory employment practices include: limited family friendly contracts; antisocial working hours; difficulties accommodating annual leave; and poor maternity return arrangements…"[100]
Pre-existing health status	Any pre-existing health conditions that has not been caused by occupational hazards.	"One participant had diabetes and so for them being unable to eat regularly [due to lack of meal breaks] had a significant effect on their concentration."[60]
Career commitment	The commitment of the individual to further their pharmacist career, which can be seen by the years the individual has pursued and gained experience in their career as a pharmacist.	"…few respondents demonstrated a real vocational passion; only factor 1 strongly agreed that community pharmacy working was enjoyable."[100]
Organisational commitment	The commitment of the individual towards their employing organisation, often shown through actions to build up or support the organisation.	"One pharmacist talked about how corporate and individual responsibility could become confused. 'I think when you go into a premises as the pharmacist you need to know what is your responsibility and what isn't. The trouble is I think they [organisations] confuse corporate responsibility with individual responsibility and they merge the two…'"[60]
Role commitment	The commitment of the individual to their specific employed role in their current workplace.	"The [performance] issues [caused by lack of role commitment] raised by independent and small chain owners were more often about poor customer service, attitude to work (motivation and timekeeping)…"[101]
Professional commitment	The commitment of the individual to act as a professional	"However, those achieving well-apportioned and well-organised dispensary spaces describe the professionalism of

	health clinician with ethical values as defined by their profession, including maintenance of updated, current health knowledge.	the discipline: 'Tidiness to me breeds economy and profitability, as well as looking professional and imparting a more organised, less stressful environment' (I-5)."[102]
Reference groups	Groups whom individuals compare themselves in order to understand their societal and workplace positions.	"As viewed by those interviewed… perceived inequities between compensation relative to others and hours worked, was symbolic of the attitude of management."[88]
Generalised other	What the pharmacist perceives that others think of the pharmacist themselves.	"I suppose it is being drummed into them [the public] as well, ask your pharmacist, go to your pharmacy and they will speak to you within 2 minutes."[85]
Role affinity	What the individual naturally gravitates towards doing in their role as a result of their personal preference.	"Findings indicate that, in terms of their own professional image, there is a perceived tension between the commercial, which is seen as a necessary evil, and the pharmaceutical professional side. The large majority of respondents (= 9) were stating a clear bias towards the professional."[64]
Role orientation	How the individual performs their role as a result of their workplace, role expectations and their own perception of role identity.	Additionally, when comparing views on delegation with what was recorded in observations for five of the 11 pharmacists, the two did not always match. For example, pharmacist 4 stated: '…I don't see why, you know, anybody can't, can't, get on and do most of the jobs. Erm, except the ones that legally I have to do.' However, she was observed to be involved in activities such as disposal of returned medicines, cash counting and dealing with general administrative paper work and stock invoices."[81]
Role performance	How successfully the individual performs their role. Methods of managing performance and risk, role competence and necessary skills are included in this factor.	"This finding suggests that there is reduced situation awareness for pharmacists when handling e-prescriptions. Situation awareness, which is the ability to quickly and effectively integrate relevant information from multiple sources in order to develop an accurate understanding of the environment, is known to be a key factor in enhancing patient safety."[74]

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964 ROLE STRESS FACTORS: SOCIAL SETTING CATEGORY

Factors	Definition	Example
Culture	Organisational members' shared perception of what organisational values are, which then affects their role behaviour and performance. These beliefs or perceptions may act as prescriptions for the way in which members of the organisation work [44]. Includes organisational climate.	"The finding that organizational culture was the SEIPS model component with the most statements and was mentioned across all interviews is noteworthy. … Organizational culture may be a key component that sheds light on lack of time identified by pharmacists in previous studies in the sense that planning and coordination are necessary to having enough staff and setting up the system so pharmacists do have enough time to provide CPS."[27]
Values	The stated values of the organisation/ workplace in which the pharmacist works. Includes discount and service models.	"'I no longer work for a large chain as a relief pharmacist. Having told the non-pharmacist manager that it was dangerous working in the pharmacy at the staff levels we had, I was told 'yes, dangerous for our bonuses'.' [Respondent 765, Locum pharmacist]"[82]
Status	The professional status given to pharmacists by society that allows those in this position the power and authority to administer services to the public. Includes 'Pharmacist' image, 'pharmacy' image', employment status, autonomy and role occupancy.	"Micromanagement by managers of the organization led to a feeling of reduced autonomy for 1 community pharmacist. Some pharmacists felt the lack of autonomy afforded to them devalued their professional status: 'I like it where the pharmacist is given some discretion and control over how they operate professionally. I don't like it when it's quite obvious that head office is making all the ethical decisions for

		you and head office is controlling every last movement of you within the pharmacy.' [Participant 24, Community]"[87]
Sanctions	The organisational rewards for approved actions, and punishments for unwanted role behaviour (work actions). Includes wages, sanctions and other benefits.	"Further evidence was also found for pharmacists' dissatisfaction with the amount of recognition they receive for good work. It seems that some line managers provide little or no positive feedback to their staff. Those who were satisfied with their line management commented frequently on the amount of support and encouragement they felt they had received."[87]
Resources	Objects in the pharmacy that are used by its employees to provide pharmacy services. Includes physical environment, equipment, staffing levels, multilingual support, clinical references and stock availability.	"The dispensary epitomises the essence of the community pharmacist's professional role. When it functions well the pharmacist is confident, motivated and empowered to: 'perform all of the tasks required'. When it functions badly the pharmacist is de-motivated and frustrated."[102]
Norms	Working conditions the role occupant normally expects, perhaps even when compared to their peer reference group. Includes work activities, workload, alternate job perception, advancement possible, hours of work, physical location of pharmacy, and pharmacy type.	"All the pharmacies that I work in have very good hard-working staff but the sheer volume of work (and the constantly ringing telephone) puts us all under pressure. [...] In two of the pharmacies I get no lunch break (or tea breaks) so just grab a sandwich [as I go along]. [Respondent 419, Locum pharmacist]"[82]

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966 ROLE STRESS FACTORS: Interpersonal Interactions Category

Factors	**Definition**	**Example**
Patient-pharmacist dyad/role set	The relationship between the patient and the pharmacist, including the outcomes that arise from their social exchange.	"Many of those interviewed felt that that the public (i.e. customers) at times could be very demanding and impatient. Pharmacists felt that customers were often unwilling to wait even for short periods of time and expected an instant service. This added to the pressure of having to deal with customers as quickly and as efficiently as possible, but could increase the potential for error."[85]
Doctor-pharmacist dyad/role set	The relationship between the doctor and the pharmacist, including the outcomes that arise from their social exchange.	"Prescribers' instructions were sometimes not clear, or on occasions change their mind about a prescription, and required the pharmacist to intervene. This sometimes meant the pharmacist had to be on a special lookout for a specific patient in addition to their duties and worked with divided attention."[78]
Allied Health practitioners – pharmacist dyad/role set	The relationship between Allied Health practitioners (e.g. nurses, physiotherapists, etc.) and the pharmacist.	"The relationship with general practitioners [and] hospitals is in the main poor, and even worse with nurses and carers. I think we have [our] head in the sand believing we are valued by other professionals... [Respondent 113, Locum pharmacist]"[91]
Pharmacy staff – pharmacist dyad/role set	The relationship between pharmacy staff and the pharmacist.	"Pharmacists indicated that they felt their staff were not adequately trained and the pharmacist lacked confidence in their staff's ability when delegating tasks. Many pharmacists cited lack of motivation of staff, incompetence, staff shortages and that some support staff did not want to accept responsibility for work tasks."[85]
Supervisor-pharmacist dyad/ role set	The relationship between direct supervisors/managers and the pharmacist.	"This interviewee illustrates the frustration she felt from inadequate and unresponsive management structures within a large multiple: 'I moan to management about conditions all the time but it's almost like banging your head against a brick wall.'"[89]
Pharmacist-pharmacist	The interaction between two	"Importantly, information underload may occur when necessary information is not conveyed from one pharmacist to another

dyad/ role set	pharmacists.	pharmacist during a handoff."[75]
Industry representative – pharmacist dyad/role set	The relationship between industry representatives and the pharmacist.	"Likewise collaborative buying… can also be used to enhance buyer power with the pharmaceutical manufacturers and to help enhance discounts… three respondents specifically name superior availability as an important aspect of their USP, e.g. one large pharmacy which illustrate their efforts by stating that, even 'when there is no more "flu vaccine to be had anywhere in Germany' we still have some because we source it from Switzerland…"[64]
Professional association – pharmacist dyad/role set	The relationship between national pharmacy professional bodies and the pharmacist.	"It was felt that the leaders within the profession could do more to facilitate role expansion... '...maybe a little bit of frustration at the lack of progression, that the big people in the Pharmacy Society are just a bit slow at kind of progressing the pharmacists sometimes.'"[33]
Government bodies – pharmacist dyad/role set	The relationship between the government and the pharmacist, including the outcomes that arise from their social exchange.	"To comply with legislative and good pharmacy practice requirements, pharmacists are required to be available both in the dispensary and the front shop. This practical challenge was already identified by Strand in 1998 as limiting the provision of pharmaceutical care, as 'Pharmacists could not dispense drugs and take care of patients at the same time'…"[68]
Pharmacy Organisation - pharmacist dyad/role set	The relationship between the pharmacy organisation and the pharmacist.	"The pressure to do a certain number of medicines-use reviews (MURs) had a detrimental effect on morale and performance in busy stores. One respondent, still employed as a manager in the community sector, complained that inadequate resources often meant that MUR targets were unattainable. They were, therefore, a source of resentment towards employers and a contributing factor in job dissatisfaction."[33]
Pharmacy staff – patient dyad/role set	The relationship between pharmacy staff and patients, which may affect the patient-pharmacist dyad.	"The [non-English speaking] parent, however, does not engage with the [English speaking] pharmacist directly either verbally or non-verbally, responding instead to the [translating] pharmacy assistant who is stood slightly behind and to one side of the pharmacist."[67]
Doctor – patient dyad/ role set	The relationship between doctors and patients, which may indirectly affect the patient-pharmacist dyad.	"As a rule you have MDs [medical doctors] in the neighbourhood and you know what their prescription patterns are. With 250,000 different products and the constraints of stock management it is impossible to have everything . . . we [the pharmacy] just try to cater to our regular customers."[64]

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968 ## ROLE STRESS FACTORS: Extra-role Category

Factors	Definition	Example
Work-home roles	Domestic/family responsibilities and roles that may interact with work roles. Includes marital status, number of children, and view of career importance versus partners'.	"Working patterns were strongly influenced by personal circumstances. Family commitments were important to many interviewees with dependent children. Factors such as age and number of children, availability of informal childcare, views on formal childcare provision, husband's job and contribution to domestic workload all influenced working patterns. Interviewees commonly stated that their family/children were their priority."[92]
Social roles	Societal roles with friends and other social groups	"The data from this study indicate that the Q statements referring to long, antisocial hours and high workloads resonated with the majority of respondents in this sample."[100]
Other roles	Community roles, volunteer roles, etc.	Besides family commitments and leisure pursuits, a range of other commitments were mentioned as being influential in the need for flexible working arrangements. … A number of locum pharmacists were involved with various boards and committees, not just ones

		related to pharmacy or health care, but also community or local voluntary groups, often involving unpaid work."[35]

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970 ## ROLE STRESS CLASSIFICATIONS

971 The seven types of role stress proposed by Hardy & Conway 1988 were apparent in the data.

TYPES	Definition	Example
Role ambiguity	A situation where role expectations are unclear to the role occupant, resulting in role strain and the need to undergo role-making.	"In many cases, pharmacists recognized that there was an outstanding problem with a prescription but they were not provided with sufficient information that would direct them to the individual to speak to in order to clarify or address the problem, often resulting in the need to redo some of the work that the previous pharmacist did and may put them behind for the rest of the day. Pharmacists spoke about how the lack of information resulted in them feeling frustrated."[75]
Role conflict	When the two roles that the individual occupies contradict each other and cause conflict for the role occupant, requiring them to prioritise one over the other.	"They [pharmacists] felt that being on the constant lookout for events that might count toward targets set by the organization distracted their attention from immediate dispensing tasks."[78]
Role incongruity	When the role of an individual conflicts with their individual ethics or values.	''You never have enough time to do your job the way you think it should be done. So you get frustrated and end up taking that frustration out on someone else you happen to be working with. Fortunately, everyone is in the same boat, so at least we all get it, and don't usually take it personally.''[86]
Role overload	When there are too many role expectations for the role occupant to complete in the time given.	"Pharmacists recognised that their role had changed considerably resulting in increased workload and responsibility, which in turn led to greater stress. Many felt that new services… were necessary and professionally rewarding, but were difficult to implement successfully, along with patient counselling and dispensing of prescriptions."[85]
Role underload	When there are too few role expectations for the role occupant in the time given, resulting in role strains such as frustration or boredom.	"This was particularly common in male interviewees who often worked part of the time in less traditional pharmacy roles to increase job interest: 'So we basically formed a company that provides consulting advice to any healthcare related organisation. But in the meantime I've always kept up my locum, retail locum. And for the last 3 years I've done 2 days a week as a prescribing advisor…. I like to be doing new things, and I think that's another reason why if I was in retail 5 days a week I'd potentially get bored.'"[79]
Role overqualification	When the individual's role expectations are less than their education qualifies them to accomplish.	"'I felt that as a pharmacist I was trained quite highly and yet I… couldn't put my skills to use in certain ways.'"[33]
Role underqualification	When the individual requires more training to successfully perform the given role.	"A number of women reported practical difficulties in delivering extra services in the community pharmacy environment: 'Cholesterol testing demand was massive… there was no training for the staff… so we weren't prepared for the questions and things, and as I say, just the sheer demand of it was completely overwhelming.'"[89]

TYPES OF ROLE STRAIN

The 3 types of role strain described by Hardy & Conway 1988 were also present. Social responses to role strain were heavily studied by pharmacy literature and therefore were categorised.

Strains	***Themes*, sub-categories**	**Definition**	**Example**
Physiological responses	*Mental health issues*	Physiological reactions to the role stresses being experienced by the individual.	"…a number of interviewees commented that they found community pharmacy working exhausting and this affected their quality of life. Two interviewees discussed work-related mental health issues, one of these individuals had attempted suicide."[89]
Psychological responses	*Frustration, anger*	Emotional responses to the role stresses being experienced by the individual.	"However, pharmacists reported that if they did not have a clear sense of what the problem was or have all of the information at the time the physician or patient called back, they felt unprepared and unprofessional. This also led to frustration, and feelings of incompetence."[75]
Social responses		Social withdrawal from colleagues, organisation, friends, etc.	"Overall, the principal coping strategy reported in response to high pressure community pharmacy environments was to alter work environments and patterns."[79]
	Role dissatisfaction	Individual dissatisfaction with the given role in the workplace due to role stress being experienced.	"Previous studies have identified aspects of community pharmacy working which are linked to work related stress including, lack of autonomy, long and inflexible working hours, lack of recognition, underuse of clinical skills and monotony of the dispensing process…"[79]
	Role turnover	When the role strain that the individual is experiencing causes them to leave their role in the job.	"…exemplars of this factor had recently changed employer or moved out of community pharmacy totally into other pharmacy sector roles…"[86]
	Job dissatisfaction	Individual dissatisfaction with their job in the workplace due to currently experienced role stress.	"The following narrative, from a part-time pharmacist working for a chain store, illustrates how perceptions of increased workload can impact on job satisfaction: 'I'm quite disillusioned with it at the moment. I've always loved my job and I've worked hard to get my job but over the last year, eighteen months, I just feel like the pressure that I've been put under is awful.'"[89]
	Job turnover	When the experience of role strain causes the individual to leave their job in the workplace.	"Another pharmacist reported that the level of chaos in the pharmacy was so significant that she decided to seek work elsewhere. She stated, 'that was such a huge patient safety concern I got so stressed, I'm like, "I can't do this anymore" so I quit that job.'"[75]
	Career dissatisfaction	Individual dissatisfaction with their career due to the role stresses experienced.	"…one participant expressed the view that many pharmacy graduates were not satisfied with their career development particularly the difficulty of owning their own pharmacy…"[91]
	Career turnover	When the individual leaves the career due to the role strains they experience.	"The respondent in the previous quote continued to express his concern about pharmacists leaving the profession due to dissatisfaction with the current situation in community pharmacy."[91]