

Research Paper

Exploring multi-stakeholder perceptions of practice-related facilitators to optimising the quality of integration of regulated pharmacy technicians in community pharmacy in Ontario: a qualitative study

Maryam Jetha^{1,*}, Kenneth K. C. Man¹, Dalya Abdulla² and Zubin Austin³

¹School of Pharmacy, University College London, London, UK

²Faculty of Applied Health and Community Studies, Sheridan College Institute of Technology and Advanced Learning, Brampton, Ontario, Canada

³Leslie Dan Faculty of Pharmacy, University of Toronto, Toronto, Ontario, Canada

*Correspondence: Maryam Jetha, UCL School of Pharmacy, 29–39 Brunswick Square, London WC1N 1AX, UK . Email: maryam.jetha.16@ucl.ac.uk

Received July 16, 2020; Accepted March 16, 2021.

Abstract

Objectives The objective of this study was to investigate multi-stakeholder perceptions of practice-related facilitators to optimising the quality of Regulated Pharmacy Technician (RPT) integration into the community workforce in Ontario. Facilitators to incorporating technicians into the workflow and supporting their optimal scope of practice were explored.

Methods A qualitative exploratory study comprising a series of one-to-one interviews using a piloted, semi-structured interview guide was conducted with four community pharmacy stakeholder groups; pharmacists, RPTs, pharmacy assistants and pharmacy owners. Interviews were conducted until saturation of themes. Verbatim transcripts were coded inductively using the software, NVivo v12 (QSR International) and general inductive analysis identified key findings.

Key findings Twenty-seven interviews were conducted consisting of seven pharmacists, seven RPTs, eight assistants and five pharmacy owners working within community pharmacy and/or academia or hospital. All participants from every stakeholder group acknowledged that the promise of regulation of pharmacy technicians was unfulfilled in practice. Three major themes of practical significance were derived: (i) A viable business plan that incorporates RPT remuneration and ensures sustainability is a facilitator to fuller integration of RPTs, (ii) Planning the pharmacy workflow to support RPTs' and pharmacists' evolving scopes is a facilitator to RPT integration and (iii) Schedule planning to incorporate RPTs and appropriate staffing ratios in relation to prescription volume and pharmacy services allows for optimal utilisation of RPT skills and facilitates their integration.

Conclusions Achieving integration of RPTs into the business of a community pharmacy has educational, workplace and regulatory implications, requiring the effective engagement of all stakeholders in pharmacy.

Keywords: community pharmacy, support staff; community pharmacy, workforce; professional practice, skill mix; Pharmacy technicians

Introduction

Globally, pharmacy regulatory authorities have created the role of the pharmacy technician, as a way of optimising and rationalising roles and responsibilities within pharmacy to manage workload and time required for direct patient care activities (led by the pharmacist).^[1,2] Many jurisdictions in Europe, the UK, the USA and Canada began to develop formal frameworks for the regulation of pharmacy technicians while still maintaining an informal and unregulated pharmacy assistant role.^[3,4]

In the Canadian province Ontario (Table 1), the research setting, the Ontario College of Pharmacists (OCP) introduced the role of the Regulated Pharmacy Technician (RPT) in December 2010. The complete legal scope of practice for RPTs is included in Table 2. It was anticipated that RPTs would relieve pharmacists of technical tasks to facilitate greater time and focus on therapeutic and cognitive aspects of medication management services.^[5] As of 1 January 2020, OCP has regulated 5051 pharmacy technicians in 4566 community pharmacies,^[6] more than any other jurisdiction in Canada. Following any regulatory change, practice change in the real world may be slow and challenging to facilitate. This is largely due to the longitudinal nature of practice change itself: regulatory change can take years or decades to be fully realised in day-to-day professional practice.^[7] It has been a decade since RPTs have become recognised as regulated health professionals in Ontario and it has been left substantially to employers and managers to work out integration details at the local/store level,^[8,9] creating room for inconsistencies. Anecdotally, RPTs continue to

be underutilised with respect to their knowledge and skills, and pharmacists are unclear as to how best to leverage this workforce to open up additional opportunities for non-technical patient care services.^[10] Despite additional educational requirements and regulatory obligations associated with licensure (both of which are costly and time consuming), RPTs have not enjoyed enhanced professional, employment or remuneration opportunities commensurate with their increasingly professionalised role.^[10]

Recently, there has been increased interest in exploring barriers and enablers to the integration of regulated technicians in the workforce. Salameh *et al.* examined pharmacist and RPT perceptions on strategies to facilitate integration of RPTs to support their optimal scope in the community sector; they focussed on environmental strategies, interpersonal strategies and professional identity formation to encourage better integration.^[12] Renfro *et al.* examined employer perceptions of pharmacy technicians in community settings and highlighted knowledge and skills gaps related to interpersonal competencies that may limit fuller integration.^[13] Jetha *et al.* explored multi-stakeholder perceptions of barriers and facilitators to intra-professional collaboration focussing on implications for educators and found that the economics of integrating higher paid RPTs has not been sustainable or viable in practice;^[11] however, specific facilitators to overcome this practice-related barrier were not identified. Across the literature, there is little information investigating practice-related facilitators beyond environmental strategies to integrate RPTs; this study addresses these focussing on veracity of themes across multiple stakeholders in community pharmacy.

Table 1 Context of pharmacy in Ontario

Pharmacy in Ontario	
Demographics	<ul style="list-style-type: none"> • Second largest province accounting for 10.8% of the nation's total area^[14]. • Most populous province with a population in 2019 of 14,446,515 people^[15]. • Population of Ontario represents 40% of all Canadians^[16].
Nature of Government and Pharmacy legislations	<ul style="list-style-type: none"> • Provincial government has delegated its authority to regulate the professions to an external body^[17]; Ontario College of Pharmacists. • Remunerative Pharmacy services are remunerated by the Ontario Ministry of Health^[18].
Registering as a Pharmacist	<ul style="list-style-type: none"> • Requires successful completion of a four-year accredited professional degree pharmacy programme (PharmD)^[19]. • Completion of structured practical training component and national examination by the Pharmacy Examining Board of Canada^[19].
Registering as an RPT	<ul style="list-style-type: none"> • Requires successful completion of 2-year Canadian Council (CCAP) accredited pharmacy technician programme or bridging programme (for individuals already working in the role to upgrade their skills to align with changes in the scope of practice, without returning to school to complete an entire training programme). • Completion of structured practical training component and national examination by the Pharmacy Examining Board of Canada^[20].

Table 2 Scope of practice of RPT^[21]

Pharmacy technician legal scope (RPT)	Notes
Provide info and educate patients	Not if clinical or therapeutic
Dispense, sell and compound drugs	Can perform technical check for product release (e.g. correct patient, prescriber, dosage form, route of administration and directions for use)
Accept verbal prescriptions	Cannot accept verbal prescription for narcotics, controlled drugs, benzodiazepines or other targeted substances
Authorise prescription transfers	Cannot authorise transfers for benzodiazepines or other targeted substances
Accept delegation of a controlled act	
Perform a procedure on tissue below dermis (piercing with a lancet-type device)	Under direction of a regulated pharmacist in Part A (who is physically present)

Method

Study design

A qualitative exploratory study comprising a series of one to one interviews using a piloted, semi-structured interview guide was conducted to define future areas for focussed research. Four major stakeholder groups were identified for inclusion as participants; RPTs, pharmacists, pharmacy assistants and pharmacy owners (Table 3). While each group would bring different perspectives, there would also be significant overlap between categories; for example, some participants would be both pharmacy owners and pharmacists. A draft interview protocol, informed by the research aims and review of existing literature, was piloted to allow for actual insight into interpretation of questions, strengths and weaknesses of the interviewer's style, and approximate interview length which was then refined according to feedback. As part of the final interview protocol (Supplementary Appendix 1) used in each interview, participants were asked basic demographic questions and given the option to share the daily prescription volume and usual staffing profile for their pharmacy.

Interviews

Participants were purposively selected using the social networking tool LinkedIn using the search terms; 'Pharmacy technician Ontario', 'Pharmacist Ontario', 'Pharmacy assistant Ontario', 'Pharmacy owner Ontario'. Potential participants were identified on LinkedIn from their employment positions and practice areas (geographical and employment scope). Snowballing sampling was also used; when individuals were approached to participate in this research, they were asked to nominate other peers who they thought might also be interested in participating in this work. Purposive sampling involved deliberately ensuring sampling did not result in excess of participants in certain groups over others. Invitations to 87 potential participants were sent via email or LinkedIn mail, with the aim to interview 5–8 people from each stakeholder group. If agreeable, participants responded to the researcher and provided informed verbal consent. Participants were asked if they were comfortable with completing audio-recorded telephone interviews due to logistical constraints, however, for participants who specifically requested face to face interviews, the opportunity was also provided. Interviews were then scheduled at a mutually convenient time between September and November 2019. In addition to audio recordings, fieldnotes were also maintained subsequent to the interview to aid understanding of content. Interviews were conducted until saturation of themes.

Data analysis

Pursuant to the exploratory nature of the research, a general inductive approach to thematic analysis was used.^[22] Audio files were transcribed verbatim and preliminary data analysis was conducted as soon after data gathering as possible, to inform subsequent interviews, as described by Yin.^[23] Nodes were arranged into groups depending on their focus and meaning and were given a provisional description. The emergent coding clusters were compared in order to recognise the common features^[24] and confirm assignment to that particular group.

The trustworthiness of data interpretation was established through triangulation principles described by Lincoln and Guba^[25]: all transcripts were independently reviewed and coded a second time by another researcher. If any discrepancies in emergent themes were to arise, a third qualitative researcher was available to address disagreements in interpretation and coding, if necessary. The research team met regularly to share developing ideas and interpretations.^[26] The team developed consensus on themes while verifying the generated themes across multiple stakeholder perspectives. In practice, more interviews beyond the point of saturation were conducted due to the inevitable lag time between interview, transcription, individual coding, and team reconciliation of themes. However, these additional interviews were also available for confirmatory and triangulation purposes.

Results

Twenty-seven participants were interviewed, each interview lasting 25–55 min. Two participants (one pharmacist and one pharmacy assistant) working at the same pharmacy requested individual face to face interviews, which was granted. Overall, the sample consisted of seven pharmacists, seven RPTs, eight assistants and five pharmacy owners working within community pharmacy and/or academia or hospital. Table 4 shows the total number of interviewees in each stakeholder group together with basic demographics. All participants from every stakeholder group acknowledged that the potential from the promise of regulation of pharmacy technicians was unfulfilled in practice. Based on the research, three major themes of practical significance were derived; development of a viable business plan, pharmacy workflow and schedule planning as facilitators to optimising the quality of integration of RPTs. Illustrative quotes that represent a range of stakeholder opinions, the integration barriers and facilitators they raised, and the analytical points being made appear in Table 5.

Table 3 Inclusion criteria for participant recruitment

Stakeholder group	Eligibility criteria
Pharmacists	Professional registration with the Ontario College of Pharmacists and elected into either part A or part B of the register: <ul style="list-style-type: none"> • Part A registered pharmacists refer to pharmacists who provide patient care and fulfil the practice requirement of 600 h of patient care while practising the profession, over a 3-year period^[27]. • Part B pharmacists working at least part-time in a community pharmacy setting. Part B registered pharmacists refer to pharmacists who do not provide patient care. Examples could include, but not be limited to, pharmacists currently working in: administration (including college staff), academia, government, the pharmaceutical industry and consulting firms^[27].
RPT	Professional registration with the Ontario College of Pharmacists and working at least part-time in a community pharmacy setting.
Assistants	Pharmacy assistants working at least part-time in a community pharmacy setting and satisfy one of the following criteria: <ul style="list-style-type: none"> • Completion of a community college or private vocational college pharmacy assistant programme. • Pharmacy students in the final year of their PharmD programme. • Technician students enrolled on CCAP-accredited technician programme.
Pharmacy owners	Owner of a minimum of one community pharmacy located in Ontario, Canada.

Table 4 Demographic characteristics of stakeholder participants (*n* = number of interviewees)

Demographic	Stakeholder group			
	RPT (<i>n</i> = 7) ^c	Pharmacist (<i>n</i> = 7)	Pharmacy assistant ^a (<i>n</i> = 8)	Pharmacy owner (<i>n</i> = 5)
Sex				
M:F	1:6	2:5	4:4	5:0
Other roles				
Educator ^b	3	3	-	1
Hospital Pharmacist	-	1	-	-
Hospital Technician	1	-	-	-
Pharmacy student	-	-	5	-
Technician student	-	-	2	-
Time in practice (years)				
<5	1	2	8	1
5–10	-	2	-	3
11–15	-	-	-	1
16–20	1	1	-	-
>20	5	2	-	-
Primary practice type				
Chain	4	4	6	2
Banner	-	-	-	1
Independent	1	2	-	2
Clinic	-	1	2	-
Other	2	-	-	-
Prescription volume per day (scripts)				
<100	2	2	1	2
101–200	1	2	2	2
201–300	1	-	4	1
301–400	1	-	1	-
>400	-	1	-	-
Primary practice location				
Urban	6	6	7	3
Suburban	-	1	-	2
Rural	1	-	1	-

^aPharmacy assistant group includes one diploma assistant.

^bEducator group included one technician course teaching assistant, five technician course coordinators and professors, one university professor of Pharmacy.

^cAll RPTs completed designation through bridging or graduating from a CCAPP-accredited Pharmacy Technician programme.

Business plan

According to participants, a viable business plan that incorporates RPT remuneration and ensures sustainability is a facilitator to fuller integration of RPTs. Commensurate with their knowledge, skills, training, qualifications and advanced credentials, there is an expectation that RPTs should be remunerated at a higher level than pharmacy assistants. To ensure higher level remuneration of RPTs is viable for their pharmacy business model and to gain management 'buy in', participants believed all stakeholders should recognise and plan their unique return on investment in advance. This return on investment may be the freeing of pharmacists' time adequately scheduled with other remunerative services. Investing in RPTs could free up an owner or pharmacist's time (often devoted to dispensing) to plan reimbursable services that once built, shift that freed time to delivering those services.

For other pharmacy models not looking to specialise in clinical services and focus on prescription volume, their unique return on investment may be managing workload associated with technical checks. In the opinions of stakeholders, this would replace the need to hire a second pharmacist (requiring higher level remuneration). Some stakeholders highlighted other longer-term benefits of RPT investment including capitalising on the skill set of RPTs and retaining quality staff if they are rewarded with pay commensurate to their education and training.

All participants acknowledged that the regulation of technicians was based on the idea that RPTs would be responsible for technical dispensary duties, freeing up time for pharmacists to provide cognitive services. However, some owners and pharmacists described the economics of this business case as currently unsustainable. Perceptions of participants were that this was due to significant reductions in income sources from cognitive services, in the current economic climate of community pharmacy. The emerging perspective was that community pharmacy needs to be supported by regulators to generate a best practice model for sustainable, viable, economically feasible integration of RPTs.

Pharmacy workflow

All participants from every stakeholder group suggested re-engineering the pharmacy workflow to support RPTs' and pharmacists' advanced scope activities is a facilitator to enhance efficiencies and RPT integration. According to participants, their current workflow arrangement was based on management policy or traditional practice. There was little consensus as to whether the pharmacist should be at the front or back end of the workflow. However, participants agreed that a linear workflow was essential; an RPT situated adjacent to both pharmacy assistants and pharmacists. Many participants acknowledged they were in a transition phase where they were

Table 5 Sample transcript excerpts and thematic coding

Theme code	Code description	Stakeholder perceptions
Business Plan	A viable business plan that incorporates RPT remuneration and ensures sustainability is a facilitator to fuller integration of RPTs.	<p><i>I only need to get involved for the clinical aspects and checking the therapeutics of the prescription and doing the counselling so that's going to free up seventy percent of my time so I don't know it's usually going to come from the ownership or the management but they need to be a plan of what the pharmacist is going to do seventy percent of the time and how are we going to get a return on investment. If I'm going to invest in a twenty-five, twenty-seven dollar technician I need to be able to get a ROI in it. Would it be more MedChecks? Will it be more flu shots? (Pharmacy Owner 4 & Educator)</i></p> <p><i>I think only one pharmacy chain that hires technicians is Costco because their business model is a McDonalds business model, so they are a volume-based pharmacy, so they are more interested in cheap labour and that's where it makes sense for them. (Pharmacy Owner 3)</i></p> <p><i>I would say it [hiring technicians] depends on what the pharmacy is looking for, like if they really want to specialise in clinical services, and it's all different, it depends on their business model, they may choose to hire a pharmacist to cover but when they get to that high volume, whatever that threshold is, I mean that depends on context as well of that business, but at that point in time, then may be a pharmacy technician would make sense. (Pharmacist 6)</i></p> <p><i>They do bring value for employers when they don't have to hire two pharmacists. (RPT1)</i></p> <p><i>Overall, I think if you have an experienced technician, that person can be a mentor and a technician to all the assistants, they can help with workflow, but it really depends on that situation with the person in the pharmacy. (Assistant 5 & Pharmacy Student)</i></p> <p><i>Because I mean in his mind, he pays better to keep his staff because then when you have good staff, you want to reward them and he invests in you and sees you for what you're worth. (RPT9)</i></p> <p><i>Community pharmacy needs to have a very clear model shown to them that look if you hire this pharmacy technician either with a pharmacist or instead of a pharmacist these are your annual life savings, or this is your annual life potential revenue from additional services because you now have seventy percent more time to do these other services. That's the number one problem in community, like you're never ahead! You're head is just above the water. (Pharmacy Owner 4 & Educator)</i></p>
Pharmacy Workflow	Planning or re-engineering the pharmacy workflow to support RPTs and pharmacists evolving scopes is a facilitator to enhance efficiencies and RPT integration	<p><i>Pharmacies maybe haven't figured out the flow of having to work one [technician] in. (Pharmacy Owner 4 & Educator)</i></p> <p><i>The traditional workflow doesn't allow them to do that [work to full scope], the appointment-based model...would allow a technician to work, to practice more to full scope versus the traditional set up for a pharmacy... Ideally, I would like to one day implement that appointment-based model as it is. (Pharmacy Owner 2)</i></p> <p><i>I see the technicians as the dispensary manager and they would be the one taking care of all of that while the pharmacist could be focussing on all the therapeutic and you would probably make an appointment to come to see the pharmacist, you can get your prescriptions but then go into the counselling room. (RPT1)</i></p> <p><i>And all of the Shopper's Drug Marts now are onto this delta system which is fully electronic and that helps with technicians practising to full scope and the pharmacist can sit in the clinical room. (Pharmacist 6)</i></p> <p><i>At the beginning of your shift at work just talk about in a bigger scope of how you want the workflow to be. (Assistant 4 & Pharmacy Student)</i></p>
Schedule Planning	Schedule planning to incorporate RPTs and appropriate staffing ratios in relation to prescription volume and pharmacy services allows for optimal utilisation of RPT skills and facilitates their integration.	<p><i>Independents are low volume right when they start up and they don't need a technician in that setting because it's going to be higher labour costs and pharmacists should be able to manage workflow and still be able to run the business or manage the pharmacy and also having one assistant should be more than enough. (Pharmacy Owner 4 & Educator)</i></p>

Table 5 Continued

Theme code	Code description	Stakeholder perceptions
		<p><i>So mostly it depends on the script count if they are doing any more than a hundred and fifty scripts it makes sense for them to have one but anything below that an assistant is enough. (Pharmacist 7)</i></p> <p><i>So if you're only doing fifty or sixty scripts there is no need for a technician being paid x amount of dollars as well as a pharmacist being paid whatever their wage is because it doesn't make financial sense. (Pharmacy Owner 1)</i></p> <p><i>I talk about the scope I talk about the different community services where technicians could be a great value, whether it's the meds checks or the smoking cessation. So anytime we think about anything it's like what is the role of the pharmacy technician here right. Like how can you bring value to that pharmacy? (Pharmacist 3 & Educator)</i></p> <p><i>I can have a technician running different activities in the pharmacy, for example we can do a diabetes clinic we can do an asthma clinic we can do certain clinics...if you are alone, how do you expect to give the flu shot and check all the prescriptions and receive all the verbal prescriptions and do everything else in the pharmacy when you don't have a technician. (RPT7 & Educator)</i></p> <p><i>and when there's a certain [pause] composition of our scripts so for example what I'm trying to get at is when we have a lot of blister pack patients for example, that in my own life I had two registered technicians that were managing my entire blister pack programme of like two hundred patients, that was a big big help! (Pharmacy Owner 4 & educator)</i></p>

trying to 'figure out' a workflow that works best for their pharmacy. Several participants expressed an aspiration to eventually adopt an appointment-based model, to allow RPTs and pharmacists to fully embrace their evolving scopes.

Two participants highlighted the importance of electronic systems and appropriate software to facilitate workflow. For example, systems enabling the pharmacist to complete clinical checking remotely from the consultation room where they are delivering counselling and other clinical services. This would allow the dispensary to be managed entirely by RPTs and assistants. Finally, participants emphasised the importance of reinforcing the workflow and communicating roles at the beginning of every shift.

Schedule planning

Schedule planning to incorporate RPTs at times of peak prescription volume and delivery of pharmacy services allows for optimal utilisation of their skills and facilitates their integration, according to participants. All participants believed that at lower prescription volumes, pharmacies had limited capacity for integration of an RPT due to insufficient workload to necessitate remunerating both the RPT and a pharmacist, in addition to an assistant. Participants across stakeholder groups described that once a threshold for high volume was reached (threshold number varied across pharmacies), hiring a technician to manage the increased technical workload of the pharmacist was appropriate.

Generally, across the pool of 22 pharmacies where the 27 participants interviewed were employed (one pharmacist and one assistant were working at the same pharmacy, four pharmacies did not disclose this information), no RPT was hired in pharmacies dispensing up to 150 prescriptions per day. One or two RPTs were hired in pharmacies dispensing 150–400 prescriptions a day, with the exception of three pharmacies that hired no RPTs despite their prescription volume exceeding 150 per day (Table 6).

In addition to filling and product checking, participants highlighted that RPTs were 'great value' for services such as blister pack programmes, smoking cessation, pharmacies with a high percentage of refill scripts and where pharmacists are running clinics, that is, flu, asthma or diabetes clinics. In pharmacies where the aforementioned services were run, participants described positive experiences of RPT integration.

Discussion

The facilitators identified through this research suggest optimal integration of RPTs demands multi-stakeholder commitment. Based on the research, three major themes of practical significance were derived: (i) A viable business plan that incorporates RPT remuneration and ensures sustainability is a facilitator to fuller integration of RPTs, (ii) Re-engineering the pharmacy workflow to support RPTs and pharmacists evolving scopes is a facilitator to enhance efficiencies and RPT integration and (iii) Schedule planning to incorporate RPTs at times of peak prescription volume and delivery of pharmacy services allows for optimal utilisation of their skills and facilitates their integration. Individual pharmacies could use these strategies to decide on an ideal staff mix that meets local capacity for a trade-off between costs savings and productivity. The wider issues of sustainability in calculating the rates of remuneration and incentive payments for community pharmacy should also be considered. However, remuneration is only one factor within a broader solution incorporating elements relating to overall organisation, its individuals and environment.^[28]

Limitations

There are, however, limitations to consider. Sampling techniques used in this study led to a statistically unrepresentative demographic of the pharmacy population in Ontario, and the majority

Table 6 Prescription volume in primary practice and pharmacy team ratio

Pharmacy number	Participant number	Prescription volume in their primary practice per day	Team ratio at their pharmacy (Pharmacist:RPT:Assistant)
1	1	200	1:0:3
2	2	500	1:0:4
3	3	200–300	1:1:4
4	4	250	1:0:3
5	5	150	1:1:1
6	6	300	1:2:3
7*	7*	-	-
8	8	120	1:0:2
9*	9*	-	-
10	10	200	1:1:2
11	11	300	1:2:0
12	12	150	1:0:1
13	13	80	1:0:1
14*	14*	-	-
15	15	100	1:0:1–2
16*	16*	-	-
17	17, 27	60–80	1:0:1
18	18	10	1:0:0
19	19	80	1:0:0
20	20	250–300	1:2:0
21	21	100	1:0:1–2
22	22	200	1:1–2:2
23	23	150–200	2:0:2
24	24	200–300	1:2:1
25	25	250–300	1:1:2
26	26	400	1:2:2

*information not disclosed by participant.

of participants resided in the Greater Toronto area. Despite thematic saturation, it is difficult to know if a different cohort of participants would have identified other factors not identified in this research. Similarly, inclusion of more stakeholders for example; the general public, pharmacy service users and OCP representatives to name but a few may have yielded additional or different data for analysis. Consumer perceptions were not included due to logistical constraints and time and resources available for the study. However, interviews with other stakeholder groups/consumers and the use of quantitative methods to help establish a consensus opinion may form the basis of future work.

Educational implications

In the opinions of stakeholders, sound clinical knowledge was suggested to be insufficient to prepare a professional for practice. Pharmacy educators alluded to improving practical aspects of day to day pharmacy and core skills education to facilitate the transition of technician and pharmacy students into practice. A focus on core skills in pharmacy education is lacking.^[29] Pharmacy preceptors have identified key management skills needed by all pharmacy graduates, including a high emphasis on written and oral communication skills, decision-making and time management, conflict-resolution, leadership and professionalism and the ability to manage a team.^[34] These are important skills to assist the community workforce, where employers and managers are largely left to work out integration details at the local/store level.^[8,9]

Workplace implications

The importance of effective management practices within the pharmacy to support the integration of current RPTs was raised. Employers of RPTs could use proposed facilitators which are supported by a previous study; management-led environmental strategies including planning pharmacy workflow and staffing ratios better integrated RPTs and utilised their advanced scope.^[12] For employers who have not yet integrated a RPT, proactively recognising and planning their unique return on investment is important to sustain higher paid RPTs into practice. Previous studies have explored economic benefits related to hiring RPTs. For example, savings were realised through wage reductions when a technician was substituted for a pharmacist, reporting a complete role substitution for example when technical checking is the responsibility of a technician instead of a pharmacist.^[30] Similarly, cost savings have been reported from interventions where technicians completed patient-facing tasks.^[31–33] Time savings were also reported where technicians relieve pharmacists of technical duties, freeing up their time to conduct clinical activities.^[30]

Regulatory implications

Participants expressed a pervading sentiment that the new initiative of regulating pharmacy technicians was introduced in an ad-hoc manner. Without any integration, the workload will simply increase each time a new programme is commenced.^[28] This is important for regulators to consider during planning phases of a new model including the impact on practical issues such as economic viability. To mitigate adverse instances where RPTs are working at assistant

capacity and discontinuing their registration which defies the purpose of regulation, pharmacies must be assisted in preparing for adoption of the expanded RPT's role. For example, pharmacies may need assistance in the process of common goal setting or re-designing pharmacy workflow. Community pharmacy also needs a best practice model for sustainable, viable, economically feasible integration of RPTs shown to them. Mentoring programmes which allow pharmacists to gain assistance from other pharmacists have been highlighted by some as facilitators of change^[28] and require support from policy makers and the profession as a whole.

Conclusion

Achieving integration of RPTs into the business of a community pharmacy has educational, workplace and regulatory implications, requiring the effective engagement of all stakeholders in pharmacy. At a pharmacy level, when employers prepare to integrate a RPT, there must be a plan, that is, implementation strategy for managing the change process addressing practicalities such as workflow and economic viability for their unique pharmacy situation; perhaps using the facilitators identified in this study. Policy makers also have a key role in supporting community pharmacies to implement change. Furthermore, education and training should reflect these findings; educating about designing optimum workflow and exploring the implementation of remunerative services from a business perspective to name but a few examples. Both must be given equal importance to pharmacists' clinical skills to prepare pharmacists and RPTs optimally for day to day practice. At all levels of pharmacy practice, it is paramount that there is an awareness as well as a commitment to use and explore further facilitators identified by this study. This will allow the transition of pharmacy to a more patient-centred model, focussed on provision of cognitive services.

Supplementary Material

Supplementary data are available at *International Journal of Pharmacy Practice* online.

Acknowledgements

We thank all the participants who took part in this study as well as Dalya Abdulla and Sheridan College. Special thanks to Professor Zubin Austin for facilitating the researcher's visit and for his mentorship throughout the research placement.

Funding

This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors.

Author Contributions

M.J. made contributions to the design, conducted data collection, analysed data qualitatively and wrote the report. Z.A. and D.A. contributed to the conception and design of the study, analysis, interpretation of data and final approval of the version to be published. Z.A. and K.M. contributed to revisions to the manuscript and approved the final version for submission. All Authors state that they had complete access to the study data that support the publication.

Ethical Approval

Ethical approval was granted by Sheridan College Research Ethics Board.

Conflict of Interest

K.K.C.M. is the recipient of the CW Maplethorpe Fellowship; received grants from the United Kingdom National Institute for Health Research; the Hong Kong Research Grant Council; and personal fees from IQVIA, unrelated to the submitted work.

References

- Adams AJ, Martin SJ, Stolpe SF. "Tech-check-tech": a review of the evidence on its safety and benefits. *Am J Health Syst Pharm* 2011; 68: 1824–33. <https://doi.org/10.2146/ajhp110022>
- Jones W, Rutte PM. The introduction of a checking technician programme in community pharmacy and its impact on pharmacist activities. *Int J Pharm Pract* 2002; 10(S1): R90–R90. <https://doi.org/10.1111/j.2042-7174.2002.tb00698>
- Desselle SP. An in-depth examination into pharmacy technician worklife through an organizational behavior framework. *Res Social Adm Pharm* 2016; 12: 722–32. <https://doi.org/10.1016/j.sapharm.2015.10.002>
- Schafheutle EI, Jee SD, Willis SC. Fitness for purpose of pharmacy technician education and training: the case of Great Britain. *Res Social Adm Pharm* 2017; 13: 88–97. <https://doi.org/10.1016/j.sapharm.2015.12.011>
- Beney J, Bero LA, Bond C. Expanding the roles of outpatient pharmacists: effects on health services utilisation, costs, and patient outcomes. *Cochrane Database Syst Rev* 2000; 3: CD000336. <https://doi.org/10.1002/14651858.CD000336>
- National Statistics: NAPRA. <https://napra.ca/national-statistics> (15 July 2020, date last accessed).
- Gregory PAM, Teixeira B, Austin Z. What does it take to change practice? Perspectives of pharmacists in Ontario. *Can Pharm J* 2018; 151: 43–50. <https://doi.org/10.1177/1715163517742677>
- Angelo LB, Ferreri SP. Assessment of workflow redesign in community pharmacy. *J Am Pharm Assoc* (2003) 2005; 45: 145–50. <https://doi.org/10.1331/1544345053623474>
- Klammer GA, Ensom RJ. Pharmacy technician refill checking: safe and practical. *Can J Hosp Pharm* 1994; 47: 117–23.
- Koehler T, Brown A. A global picture of pharmacy technician and other pharmacy support workforce cadres. *Res Social Adm Pharm* 2017; 13: 271–9. <https://doi.org/10.1016/j.sapharm.2016.12.004>
- Jetha M, Walji A, Gregory P *et al.* Pharmacist-Pharmacy technician intraprofessional collaboration and workplace integration: implications for educators. *Pharmacy (Basel)* 2020; 8: 95. <https://doi.org/10.3390/pharmacy8020095>
- Salameh L, Yeung D, Surkic N *et al.* Facilitating integration of regulated pharmacy technicians into community pharmacy practice in Ontario: results of an exploratory study. *Can Pharm J* 2018; 151: 189–96. <https://doi.org/10.1177/1715163518765892>
- Renfro CP, Wheeler JS, McDonough SLK *et al.* Exploring employer perceptions of pharmacy technician certification in the community pharmacy setting. *Res Social Adm Pharm* 2020; 16: 1215–9. <https://doi.org/10.1016/j.sapharm.2019.12.003>
- The Largest And Smallest Canadian Provinces/Territories By Area. worldatlas.com/articles/the-largest-and-smallest-canadian-provinces-territories-by-area.html (15 July 2020, date last accessed).
- Canadian Provinces Population 2020. <https://worldpopulationreview.com/canadian-provinces/> (15 July 2020, date last accessed).
- Provinces and regions. <https://www150.statcan.gc.ca/n1/pub/91-003-x/2007001/4129908-eng.htm> (20 February 2020, date last accessed).
- Pharmacy Regulation in Canada: NAPRA. <https://napra.ca/pharmacy-regulation-canada> (20 February 2020, date last accessed).
- Grootendorst P, Shim M, Tieu J. Uptake and impact of regulated pharmacy technicians in Ontario community pharmacies. *Can Pharm J (Ott)* 2018; 151: 197–202. <https://doi.org/10.1177/1715163518768009>
- Becoming a Pharmacist: Association, O.P. <https://www.opatoday.com/becoming-a-pharmacist> (20 February 2020, date last accessed).
- Register as a Pharmacy Technician: Pharmacists, O.C. <https://www.ocpinfo.com/registration/register-technician/> (23 February 2020, date last accessed).

21. Understanding what a pharmacy technician can do: Pharmacists, O.C. www.ocpinfo.com/practice-education/practice-tools/support-materials/technician-role/ (23 February 2020, date last accessed).
22. Thomas DR. A general inductive approach for analyzing qualitative evaluation data. *Am J Eval* 2006; 27: 237–46. <https://doi.org/10.1177/1098214005283748>
23. Yin R. *Case study research, design and methods*. Thousand Oaks, California: SAGE, 2003. 3rd ed.
24. Vaismoradi M, Jones J, Turunen H *et al*. Theme development in qualitative content analysis and thematic analysis. *J Nurs Educ Pract* 2016; 6: 100–10. <https://doi.org/10.5430/jnep.v6n5p100>
25. Lincoln YG. *Naturalistic enquiry*. Beverly Hills, California: SAGE, 1985.
26. Shenton A. Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information* 2004; 22: 63–75. <https://doi.org/10.3233/EFI-2004-22201>
27. Part A & Part B Register: Pharmacists, O.C. <https://www.ocpinfo.com/registration/register-pharmacist/two-part-register/> (1 March 2020, date last accessed).
28. Roberts AS, Benrimoj SI, Chen TF *et al*. Practice change in community pharmacy: quantification of facilitators. *Ann Pharmacother* 2008; 42: 861–8. <https://doi.org/10.1345/aph.1K617>
29. Professional Competencies for Canadian Pharmacy Technicians at Entry to Practice:NAPRA. <https://napra.ca/pharmacy-technicians/professional-competencies-canadian-pharmacy-technicians-entry-practice> (20 February 2020, date last accessed).
30. Banks VL, Barras M, Snoswell CL. Economic benefits of pharmacy technicians practicing at advanced scope: a systematic review. *Res Social Adm Pharm* 2020; 16: 1344–53. <https://doi.org/10.1016/j.sapharm.2020.01.007>
31. Nguyen CB, Shane R, Bell DS *et al*. A time and motion study of pharmacists and pharmacy technicians obtaining admission medication histories. *J Hosp Med* 2017; 12: 180–3. <https://doi.org/10.12788/jhm.2702>
32. Read H, Ladds S, Rhodes B *et al*. The impact of a supplementary medication review and counselling service within the oncology outpatient setting. *Br J Cancer* 2007; 96: 744–51. <https://doi.org/10.1038/sj.bjc.6603634>
33. Leung M, Jung J, Lau W *et al*. Best possible medication history for hemodialysis patients obtained by a pharmacy technician. *Can J Hosp Pharm* 2009; 62: 386–91. <https://doi.org/10.4212/cjhp.v62i5.826>
34. Augustine J, Slack M, Cooley J *et al*. Identification of key business and management skills needed for pharmacy graduates. *Am J Pharm Educ* 2018; 82: 6364. <https://doi.org/10.5688/ajpe6364>