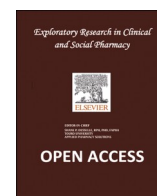


Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Exploratory Research in Clinical and Social Pharmacy

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

Advancing the research agenda on pharmacy workforce support cadres

ARTICLE INFO

Keywords

Pharmacy technician
 Scientific paradigm
 Pharmacy workforce support
 Pharmaceutical care
 Medication therapy management

Research findings on pharmacy technicians and other pharmacy support personnel have become more commonplace in recent years. Yet, there is still much work to be done. It was proffered a number of years ago that if pharmacists were to adopt new models of care that saw delegating their tasks to technicians, then many of the phenomena studied in pharmacists,¹ such as their satisfaction, commitment, stress, propensity to take up new roles, and effectiveness on the job should likewise be studied among technicians.² In that study, technicians expressed considerable future uncertainty, yet strong commitment and desire to develop further, even in the face of low wages and a perception that employers view them as easily replaceable. Technicians provided further information around that same time regarding their education and training needs, expressing concern about the variable quality in educational training programs,³ along with needs for specialty certification training, for up-skilling and experiential training on so-called “soft skills”, and for pharmacists to not only correct them when an error had been made but also to take the opportunity to develop them so as to mitigate future untoward incidents that could adversely impact patient safety.⁴

Many professional organizations are recognizing the importance that pharmacy support staff play in advancing the profession and maximizing patient outcomes. The American Pharmacists Association named short staffing of support staff in pharmacy organizations to be a threat to patient safety and further stated the need to ensure better working conditions for these staff to help mitigate this growing problem.⁵ The American Society of Health Systems Pharmacists has stated that the pharmacy technician's expanded role in specialized areas of pharmacy practice has created new opportunities that require advanced training as they support a national Pharmacy Technician Excellence Award⁶ and continually issue new statements on technicians' roles such as a recent one in pharmacy informatics.⁷ In its paper clarifying the definition of clinical pharmacy, the European Society of Clinical Pharmacy (ESCP) discussed the support needed from workforce support personnel to deliver high-quality patient care.⁸ The International Federation of

Pharmacy (FIP) states that without the confidence to delegate technical responsibilities to a well-trained and capable support workforce, pharmacists will be unable to fully deliver advanced clinical roles. The FIP Workforce Development Hub Pharmacy Technicians & Support Workforce Strategic Platform was established to address the pharmacy workforce shortage, primarily in low and middle-income countries.⁹ They have further developed a workforce advisory panel and offered a platform to advance the workplace issues associated with an increasingly stressful workload among technicians and other workforce cadres.

Exploratory Research in Clinical and Social Pharmacy welcomes additional research on technicians, or more broadly, pharmacy workforce support cadres. The research is not for the sheer sake of it, but rather, more so to provide further evidence of the roles of these support personnel in optimizing the care of patients.¹⁰ It has been demonstrated that technicians can fill and check medication orders accurately,¹¹ can effectively take medication histories,¹² and be instrumental in pharmacy becoming centers of public health, such as for vaccine administration, particularly when barriers to do so are mitigated.¹³ A systematic review demonstrated the importance of technicians in pharmacy's execution of various elements in the delivery of medication therapy management.¹⁴ Moreover, an economic analysis has demonstrated the viability and even improved efficiency of pharmacy care delivery when technicians are properly deployed and effectively delegated toward.¹⁵

Yet, more research and more evidence is needed. As increasingly recognized for its importance, self-care is an area where the role of technicians to support pharmacists on counseling requires further investigation,¹⁶ especially as it related to patients' use of various products with specious effectiveness and safety.¹⁷ We need to further evaluate how pharmacists can effectively delegate to technicians, support their self-efficacy¹⁸ and resilience,¹⁹ and help assure their resilience and commitment to the profession even in the face of lower extrinsic rewards often to them,²⁰ even while we investigate models that can also help assure not only pharmacists' reimbursement for direct patient care services, but higher wages for workforce support staff, as well. This might

<https://doi.org/10.1016/j.rcsop.2024.100407>

Received 11 January 2024; Accepted 11 January 2024

Available online 13 January 2024

2667-2766/© 2024 The Author. Published by Elsevier Inc. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

include various career ladder mechanisms for technicians, such as that which has been reported in this journal.²¹ Exploratory Research in Clinical and Social Pharmacy has published a number of other papers whose work can be further explicated for the good of the profession and its patients, including but not limited to technician involvement in deprescribing programs,²² their assistance with adequate responses to drug shortages.²³

In summary, the literature has seen a great expansion in studies dedicated to pharmacy workforce cadres. Yet, as much as there has been written of late, much remains to be done. This journal has published a number of important papers in this area and welcomes more. Further research in the area of pharmacy workforce support will help to advance patient care as well as the scientific paradigm of pharmacy practice.^{24–26}

CRediT authorship contribution statement

Shane P. Desselle: Conceptualization, Writing – original draft, Writing – review & editing.

Declaration of competing interest

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

References

- Desselle SP, Tipton DJ. Factors contributing to the satisfaction and performance ability of community pharmacists: a path model analysis. *J Social Adm Pharm.* 2001;18(1):15–23.
- Desselle SP, Holmes ER. Structural model of certified pharmacy technicians' job satisfaction. *J Am Pharm Assoc.* 2007;47(1):58–72.
- Anderson DC, Draime JA, Anderson TS. Description of pharmacy technician training programs in the US. *J Am Pharm Assoc.* 2016;56(3):231–236.
- Desselle SP. Certified pharmacy technicians' views on their medication preparation errors and educational needs. *Am J Health Syst Pharm.* 2005;62(19):1992–1997.
- Dembny S. APhA HOD addresses serious issues facing pharmacy, health care, and society. *J Am Pharm Assoc.* 2021;61(4):367–369.
- Gard GJ, Rewald MA. ASHP pharmacy technician excellence reward. *Am J Health Syst Pharm.* 2022;79(6):509–510.
- Shaw B, Boland S, Baker D, Tucker Jeter C, Zhou Y. ASHP statement on the pharmacy technician's role in pharmacy informatics. *Am J Health Syst Pharm.* 2022;79(17):1449–1452.
- Dreischulte T, Ven Den Bemt B, Steurbaut S. European Society of Clinical Pharmacy definition of the term clinical pharmacy and its relationship to pharmaceutical care: a position paper. *Intl. J Clin Pharm.* 2022;44:837–842.
- McKeirnan K, Fogarty TL, Durinck C, et al. Advancing a global pharmacy support workforce through a global strategic platform. *Res Social Adm Pharm.* 2022;18(8):3448–3552.
- Hohmeier KC, Desselle SP. Exploring the implementation of a novel optimizing care model in the community pharmacy setting. *J Am Pharm Assoc.* 2019;59(3):310–318.
- Snoswell CL. A meta-analysis of pharmacists and pharmacy technicians' accuracy checking proficiency. *Res Social Adm Pharm.* 2020;16(6):760–765.
- Jobin J, Irwin AN, Pimentel J, Tanner MC. Accuracy of medication histories collected by pharmacy technicians during hospital admission. *Res Social Adm Pharm.* 2018;14(7):695–699.
- Adams AJ, Desselle SP, McKeirnan KC. Pharmacy technician-administered vaccinations: on perceptions and practice reality. *Pharmacy.* 2018;6(4):124.
- Gernant SA, Nguyen MO, Siddiqui S, Schneller S. Use of pharmacy technicians in elements of medication therapy management delivery: a systematic review. *Res Social Adm Pharm.* 2018;14(10):883–890.
- Banks VL, Barras M, Snoswell CL. Economic benefits of pharmacy technicians practicing at advanced scope: a systematic review. *Res Social Adm Pharm.* 2020;16(10):1344–1353.
- Youssef A, Amin MEK. Egyptian community pharmacies and self-care: context, challenges, and opportunities. *Exploratory Res Clin Social Pharm.* 2023;12, 100384.
- Ung COL, Harnett JE, Hu H, Desselle SP. Barriers to pharmacists adopting professional responsibilities that support the safe and effective use of dietary supplements in the United States: perspectives of key stakeholders. *Am J Health Syst Pharm.* 2019;76(13):980–990.
- Desselle SP, Hoh R, Holmes ER, Gill A, Zamora L. Pharmacy technician self-efficacies: insight to aid future education, staff development, and workforce planning. *Res Social Adm Pharm.* 2018;14(6):581–588.
- Desselle SP, Waseem V, Woodyard A, Hosseini S, Hohmeier KC, McKeirnan KC. Cultures of support and resilience are associated with certified pharmacy technicians embracing new roles. *Res Social Adm Pharm.* 2023;19(2):316–321.
- Zgarrick DP, Bujnoch T, Desselle SP. Wage premiums as a means to evaluate the labor market for pharmacy technicians in the United States: 1997–2018. *Pharmacy.* 2020;8(1):42.
- Deyhim N, Bhakta SB, Varkey AC, et al. Systemization of a pharmacy technician career ladder in a multi-hospital system. *Exploratory Res Clinical Social Pharm.* 2021;2, 100036.
- Hurley VB, Giletta E, Yang Y, et al. Understanding the information needs of pharmacy staff using CancelRx: a qualitative study of the use of prescription e-cancellation. *Exploratory Res Clinical Social Pharm.* 2024;13, 100398.
- Poulsen JH, Jensen SR, Clemmensen MH, et al. Evaluation of the establishment of a national task force – a systematic measure to manage critical drug shortages in hospitals. *Exploratory Res Clinical Social Pharm.* 2023;11, 100322.
- Holmes ER, Desselle SP. Is scientific paradigm important for pharmacy education? *Am J Phar Educ.* 2004;68(5):1–10.
- Desselle SP, Chen AM, Amin M, et al. Generosity, collegiality, and scientific accuracy when writing and reviewing original research. *Res Social Adm Pharm.* 2020;16(2):261–265.
- Fernandez-Llimos F, Desselle S, Stewart D, et al. Improving the quality of publications in and advancing the paradigms of clinical and social pharmacy practice: the Granada statements. *Exploratory Res Clinical Social Pharm.* 2023;9, 100229.

Shane P. Desselle

Dept. of Clinical and Social Pharmaceutical Sciences, College of Pharmacy,
Touro University California, 1310 Club Dr., Vallejo, CA 94592, United
States of America

E-mail address: sdesell@touro.edu.