

# Barriers and Strategies for Transition from Student to Successful Hospital Pharmacist

Jasminder Mourh and Brandi Newby

## ABSTRACT

**Background:** Many health care professionals experience a process of transition when entering the workforce. Various barriers have been documented in the literature, including a lack of confidence, challenging interactions with patients and colleagues, workload, increased responsibility, and a fear of making mistakes. Strategies to overcome these barriers, such as orientation and support programs, have been proposed. However, evidence for the transition of students into successful hospital pharmacists is limited.

**Objectives:** To identify key barriers to the transition from student to successful hospital pharmacist and to outline strategies to overcome these barriers.

**Methods:** An electronic survey was distributed to Lower Mainland Pharmacy Services (LMPS) pharmacists, and subsequent one-on-one interviews were completed with a subgroup of new pharmacists.

**Results:** A total of 137 LMPS pharmacists (about 32% of potential respondents) responded to the survey, and 3 of these also participated in an interview. A performance score (used to quantify the transition experience) was calculated for 113 respondents, and there was a correlation between performance score and role satisfaction ( $r = 0.550, p < 0.001$ ). Performance score was also correlated with years spent working as a hospital pharmacist ( $r = 0.333, p < 0.001$ ) and with highest level of pharmacy education ( $r = 0.210, p = 0.026$ ). Work in a specialty area and presence of an orientation program were additional factors associated with higher average performance scores. The greatest need for transitional support was during the first year of work, with trainers and social supports being identified as the most helpful resources. Various perspectives were offered during the interviews, with multiple barriers and strategies proposed.

**Conclusions:** Among respondents to this survey, the key barriers faced during the transition from student to successful hospital pharmacist were limited time working as a hospital pharmacist, lack of additional pharmacy education, lack of knowledge, rotation among multiple areas, uncertainty about role identity, and limited university preparation. Given that successful transition is associated with subsequent job satisfaction, workplace strategies such as limiting the number of practice areas, developing an orientation program, and providing continued support during the first year of work should be encouraged.

## RÉSUMÉ

**Contexte :** Bien des professionnels de la santé passent par un processus de transition lorsqu'ils intègrent le marché du travail. Différents obstacles ont déjà fait l'objet d'études, notamment le manque de confiance, les interactions difficiles avec les patients et les collègues, la charge de travail, l'augmentation des responsabilités et la peur de faire des erreurs. Des stratégies visant à surmonter ces obstacles, comme des programmes d'orientation et de soutien, ont été mises de l'avant. Or il y a peu d'information sur la transition de l'étudiant vers le pharmacien d'hôpital accompli.

**Objectifs :** Repérer les principaux obstacles à la transition de l'étudiant vers le pharmacien d'hôpital accompli et décrire les stratégies permettant de surmonter ces obstacles.

**Méthodes :** Un sondage électronique a été envoyé aux pharmaciens du Lower Mainland Pharmacy Services (LMPS) (c.-à-d. les services de pharmacie des basses-terres continentales), puis des entrevues individuelles ont été réalisées auprès d'un sous-groupe de nouveaux pharmaciens.

**Résultats :** Au total, 137 pharmaciens du LMPS (environ 32 % des répondants potentiels) ont répondu au sondage et trois d'entre eux ont participé à une entrevue. Pour quantifier la transition vécue, les investigateurs ont calculé la cote de rendement de 113 répondants et ils ont établi une corrélation entre la cote de rendement et la satisfaction au travail ( $r = 0,550, p < 0,001$ ). Ils ont également corrélié la cote de rendement au nombre d'années passées à travailler comme pharmacien d'hôpital ( $r = 0,333, p < 0,001$ ) et à des niveaux plus élevés de scolarité en pharmacie ( $r = 0,210, p = 0,026$ ). Un travail dans un domaine spécialisé et la présence d'un programme d'orientation représentaient des facteurs supplémentaires associés à une moyenne plus élevée des cotes de rendement. C'est au cours de la première année de travail que le besoin de soutien à la transition se faisait le plus sentir, et les formateurs ainsi que le soutien social se sont révélés comme étant les meilleures ressources. Différents points de vue ont été exprimés pendant les entrevues et de multiples obstacles et stratégies ont été abordés.

**Conclusions :** Selon les répondants au sondage, les principaux obstacles évoqués pendant la transition du rôle d'étudiant à celui de pharmacien d'hôpital accompli étaient : le peu de temps consacré au travail de pharmacien d'hôpital, l'absence de formation supplémentaire en pharmacie, des connaissances insuffisantes, la rotation entre différents domaines, les incertitudes concernant la définition du rôle et l'insuffisance de la prépa-

**Keywords:** students, pharmacy, hospital, work, professional practice, transition

ration offerte par l'université. Étant donné qu'une transition réussie est associée à une plus grande satisfaction au travail, il faudrait encourager la mise en place de stratégies en milieu de travail, notamment limiter le nombre de domaines de pratique, établir un programme d'orientation et offrir un soutien continu durant la première année de travail.

**Mots clés :** étudiants, pharmacie, hôpital, travail, pratique professionnelle, transition

---

**Can J Hosp Pharm. 2019;72(3):219-26**

---

## INTRODUCTION

Entry into clinical practice is a transition faced by many health care professionals. Transitions are situations that lead to changes in roles, relationships, and routines.<sup>1,2</sup> As suggested by Boychuk Duchscher,<sup>1</sup> professional transition can be envisioned as a 12-month progression of doing, when foundational skills are learned; being, when knowledge and skills are developed; and, finally, knowing, when the clinician becomes comfortable and confident in practice. Health care professionals have reported various challenges when transitioning from the role of a student to the role of a practitioner, including limited confidence and experience, unanticipated professional demands, challenging interpersonal interactions, lack of familiarity with the work environment, increased accountability and responsibility, inadequate support, gaps in knowledge, and a fear of making mistakes.<sup>3-8</sup>

Within the first year of work, individuals may progress from feelings of fear, anxiety, and excitement to an understanding of what is expected in practice and finally to a stage of adaptation.<sup>3</sup> Thus, transitions may pose challenges and require the use of coping resources and strategies, but they also allow for overall growth.<sup>2</sup> Literature analyzing the transition of hospital pharmacists into practice is limited. Noble and others<sup>9</sup> interviewed 15 hospital and community pharmacy interns regarding role identity and transition. Their findings were comparable to those from research involving other health care professionals, for whom entry into practice was challenged by limited experience, difficult interactions with physicians and patients, and misalignment of reality with school-based role identity.<sup>9</sup> Expectations of pharmacist roles were infrequently met when the interns progressed into the workplace, which suggested a need for undergraduate education to provide more opportunities to practise and observe realistic roles.<sup>9-11</sup> Another aspect of pharmacist transition involves modifications in learning styles. Loewen and others<sup>12</sup> reported that clinicians often shifted in and out of their dominant and/or secondary learning styles in the first year of work. Despite this instability in learning styles, most clinicians continued to be passive learners and assimilators overall. Awareness of learning

styles and guidance of new staff toward more active learning techniques may be strategies to help facilitate the student-to-practitioner transition.<sup>12</sup>

Successful transition from student to practitioner affects patient care, staff retention, and role identity. Therefore, gaining insights into the perspectives of current hospital pharmacists is essential. The overall objective of this study was to investigate the transition from student to successful hospital pharmacist, specifically to identify key barriers to the transition process and to outline possible strategies for overcoming these barriers.

## METHODS

Approval to conduct this study was obtained from the Fraser Health Research Ethics Board. This study was divided into 2 parts: an electronic survey and follow-up one-on-one interviews (by telephone or in person). A “student” was formally defined as any individual completing a pharmacy education program, such as a Bachelor of Science in Pharmacy (BSc(Pharm)) degree, a hospital pharmacy residency, or a Doctor of Pharmacy (PharmD) degree.

### Survey

A literature review focusing on the transition of health care providers into practice was performed to create questions for the online survey. Most survey questions were adapted from a recent study involving new graduate nurses,<sup>13</sup> as well as the Casey-Fink Graduate Nurse Experience Survey,<sup>14</sup> a validated survey used to study the transition of graduate nurses into practice. The following themes were created to organize the questions used for the current survey: demographic characteristics, barriers to transition, strategies to facilitate transition, and role identity (see Appendix 1, available at <https://www.cjhp-online.ca/index.php/cjhp/issue/view/190/showToc>). The questions were first piloted by pharmacy staff members who did not participate in the study. The pretest assessed length and flow of the survey, ease of response, and acceptability to respondents.

Information about the project and a link to the anonymous survey (created with SurveyMonkey software; <https://www.surveymonkey.com/>) was sent by e-mail to all Lower Mainland Pharmacy Services (LMPS) pharmacists (about 430 individuals), including pharmacists with a dispensary, advisory, and/or clinically based practice who were providing care for inpatient and/or ambulatory patients. Only individuals who completed the survey were included in the analysis. The survey was distributed on November 21, 2017, and remained open for a total of 3 months (until February 13, 2018); 2 reminders were sent by e-mail during that period. After the survey was closed, data were imported from the survey software for analysis.

The various skills and activities that contribute to a hospital pharmacist's overall performance were used as the basis for assessing transition into practice. To quantify each respondent's transition, an overall "performance score" was calculated using 15 select questions from the online survey (see Appendix 1). These 15 questions were adapted from the Casey–Fink Graduate Nurse Experience Survey<sup>14</sup> and were modified for greater applicability to hospital pharmacists. The topics included confidence in communication and practice, knowledge, experience, preparation, and expectations, as well as task delegation and management. Responses to these questions were scored from 0 to 5 points or from 1 to 5 points (based on a Likert scale with 5 or 6 options), with a higher score indicating a higher level of performance for the particular task or skill set. Each respondent's scores for individual questions were summed; the maximum possible performance score was 75.

The performance score was used to compare the transition experience for respondents of different educational and professional backgrounds. Additionally, relationships between performance score and role satisfaction, as well as years of work, education, and work in a specialty area were analyzed. The survey did not explicitly define the concept of a specialty area; rather, participants indicated whether or not they considered their work to be in a specialty area. Lack of knowledge, opportunities for career advancement, need for support, orientation programs, helpful resources, and role of university programs were also assessed.

For questions that used a Likert scale, the following pairs of similar responses were grouped for question-specific analysis: "strongly agree" and "agree"; "disagree" and "strongly disagree"; "always" and "very often"; "rarely" and "never". Responses for "not applicable" were not combined with any other response.

Descriptive statistics were used for this study. IBM SPSS Statistics 21 (IBM, Armonk, NY) was used to calculate the Pearson correlation coefficient (*r*). A *p* value less than 0.05 was deemed to indicate statistical significance.

## Follow-Up Interviews

The initial e-mail message about the online survey included an invitation to participate in a one-on-one interview. The

invitation was limited to respondents who had started working as a hospital pharmacist within the past 5 years. Pharmacists who volunteered for this part of the study were interviewed once the online survey was closed. Responses to the interview questions were manually transcribed during the interview for analysis of themes, and all data were de-identified during the analysis. The participants were also asked to describe their views of a successful hospital pharmacist.

The interviews included a specific set of open-ended questions and focused on obtaining more details about themes explored in the online survey. Some questions were independently developed, whereas others were adapted from the existing literature<sup>13,15</sup> (see Appendix 2, available at <https://www.cjhp-online.ca/index.php/cjhp/issue/view/190/showToc>).

## RESULTS

### Survey

A total of 137 hospital pharmacists (about 32% of potential participants) responded to the online survey. Most (67 [48.9%]) of the participants had completed a hospital pharmacy residency as their highest level of pharmacy education (Table 1). Fifty (36.5%) of the respondents had been working for 5 years or less, and 91 (66.4%) reported that they were working in a specialty area.

The performance score was calculated for 113 respondents and ranged from 39 to 72. For the remaining respondents, the

**Table 1. Characteristics of Survey Respondents**

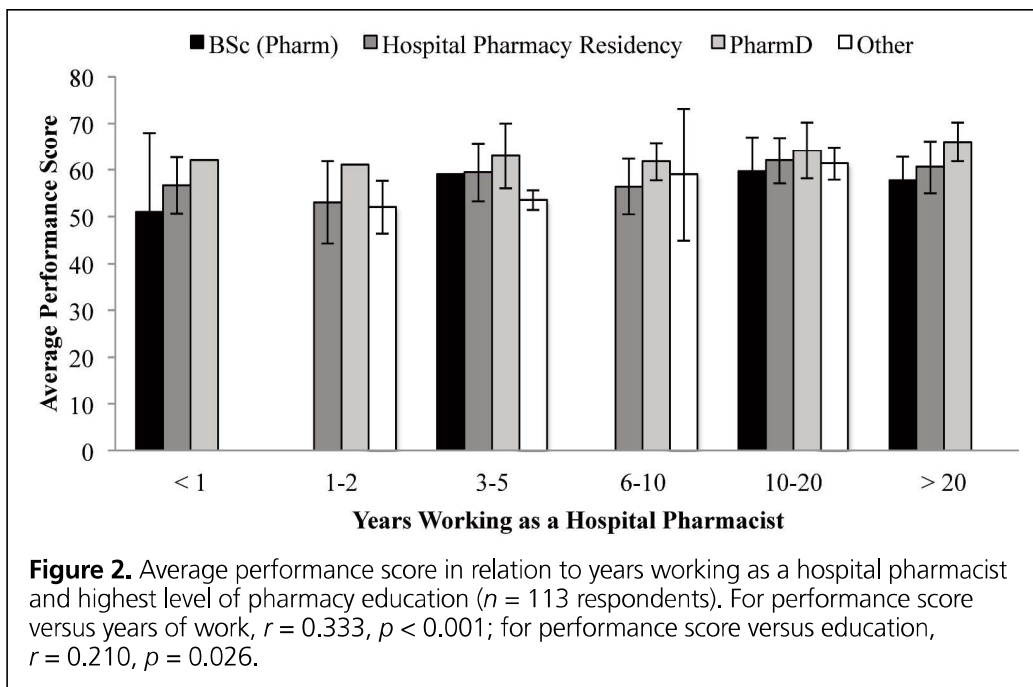
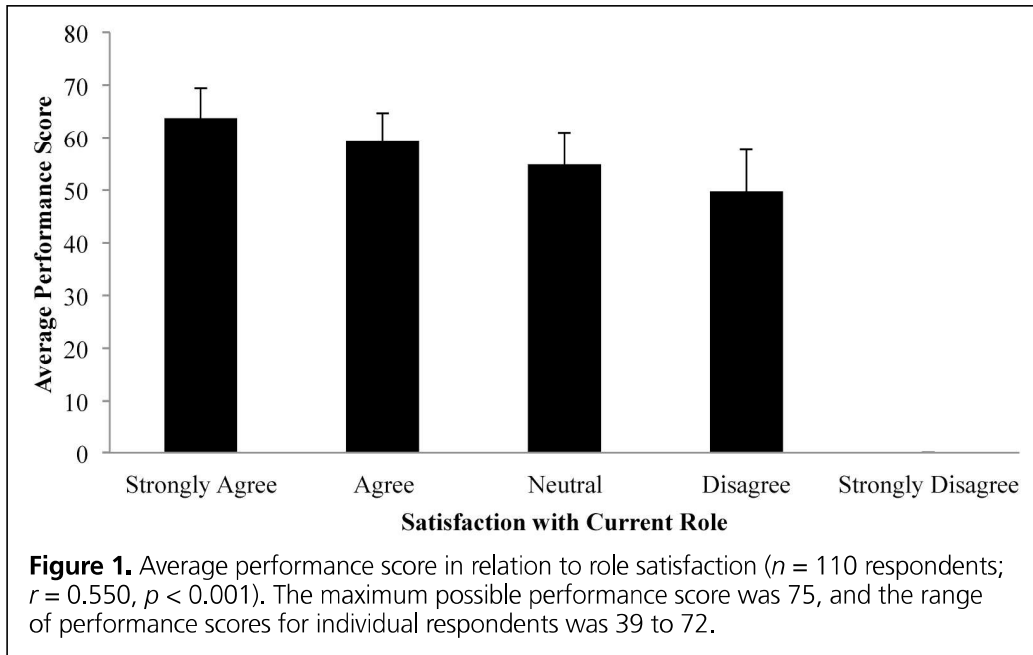
Characteristic	No. (%) of Respondents (n = 137)
<b>Age (years)</b>	
< 25	9 (6.6)
25–35	72 (52.6)
36–45	31 (22.6)
> 45	25 (18.2)
<b>Highest level of pharmacy education</b>	
BSc(Pharm)	15 (10.9)
Hospital pharmacy residency	67 (48.9)
PharmD	42 (30.7)
Other*	13 (9.5)
<b>Experience as a hospital pharmacist (years)</b>	
< 1	20 (14.6)
1–2	8 (5.8)
3–5	22 (16.1)
6–10	36 (26.3)
10–20	29 (21.2)
> 20	22 (16.1)
<b>Work in a specialty area</b>	
Yes	91 (66.4)
No	46 (33.6)

\*These 13 respondents had completed a fellowship (3 [2.2%]), a Master of Pharmacy (2 [1.5%]), a postgraduate diploma in clinical pharmacy (2 [1.5%]) or a community pharmacy residency (1 [0.7%]) or were currently completing a residency or PharmD degree (5 [3.6%]).

performance score was not calculated because of missing data from incomplete surveys ( $n = 21$ ) or because participants were completing a residency or PharmD at the time of the survey and had not yet worked as a hospital pharmacist ( $n = 3$ ). There was a correlation between performance score and role satisfaction ( $r = 0.550, p < 0.001$ ) (Figure 1). Among participants who were satisfied ( $n = 90$ ) with their role, the average performance score was 70.1 (standard deviation [SD] 5.8), whereas among those who were dissatisfied ( $n = 6$ ), the average score was 49.7 (SD 8.0).

There was also a correlation between the performance score and years working as a hospital pharmacist ( $r = 0.333, p < 0.001$ ), and between the performance score and highest level of pharmacy education ( $r = 0.210, p = 0.026$ ) (Figure 2).

For these 113 respondents, the performance score was also analyzed in relation to self-reported type of practice (specialty or nonspecialty). The average score was greater among individuals who reported working in a specialty area than for those who reported working in a nonspecialty area (61.2 [SD 6.0],  $n = 81$



versus 55.8 [SD 6.7],  $n = 32$ ). Thirty-five of these 113 respondents had worked for 5 years or less, and for these respondents, the average performance score was also higher among those who reported working in a specialty area (61.0 [SD 4.9],  $n = 21$  versus 51.6 [SD 6.4],  $n = 14$ ).

Participants were asked whether they might provide less-than-optimal care to a patient because of their lack of knowledge. The percentage of participants who stated that they rarely or never felt that way increased with number of years working as a hospital pharmacist, from 21.4% (3/14) of those with less than 1 year of work experience to 71.4% (15/21) of those with more than 20 years of work experience. There was also a difference for staff with different educational backgrounds, with 43.3% (26/60) of those in the hospital pharmacy residency group and 72.5% (29/40) of those in the PharmD group reporting that they rarely or never felt that way.

When asked about their satisfaction with opportunities for career advancement, pharmacists who had worked for less than 1 year or for more than 20 years reported the highest level of satisfaction (69.2% [9/13] and 66.7% [14/21], respectively), whereas those who had worked for 1 to 2 years had the lowest level of satisfaction (28.6% [2/7]). When the study population was analyzed according to educational background, the PharmD group reported the highest satisfaction (68.4% [26/38]) and the hospital pharmacy residency group reported the lowest satisfaction (45% [27/60]).

Participants from all educational backgrounds required support during their first year of work. In the overall population, the time of greatest need for support was identified as the first 3 months (27.7% [28/101]), the first 6 months (27.7% [28/101]), or the first 12 months (24.8% [25/101]). These results remained consistent when analyzed in relation to highest level of pharmacy education.

Of the 122 participants who answered questions about their orientation program, 90 (73.8%) reported that they had received an orientation specific to their institution's pharmacy as well as its patient care areas, and 87 individuals responded to questions regarding details of the orientation program (Table 2). In the analysis of performance scores in relation to orientation ( $n = 113$ ), the average score was 59.3 (SD 6.7) for participants who had participated in an orientation program, 60.8 (SD 5.5) for those who did not receive orientation, and 60.2 (SD 7.3) for those who could not remember whether they had had any orientation. Among respondents who had been working less than 1 year ( $n = 11$ ), the average performance score was higher for individuals who had participated in an orientation program than for those who did not participate in such a program or could not remember (57.3 [SD 6.0] versus 50.5 [SD 16.3]). Among participants who had worked for 2 years or less ( $n = 16$ ), the duration of orientation did not appear to influence the performance score (Figure 3).

**Table 2. Duration and Quality of Orientation Programs**

Characteristic	No. (%) of Programs ( $n = 87$ )
<b>Duration of orientation (weeks)</b>	
< 1	20 (23.0)
1–2	16 (18.4)
2–4*	15 (17.2)
4–6	11 (12.6)
> 6	12 (13.8)
Do not remember	13 (14.9)
<b>Quality of orientation in preparing for role</b>	
Very good	22 (25.3)
Good	27 (31.0)
Acceptable	30 (34.5)
Poor	7 (8.0)
Very poor	1 (1.1)

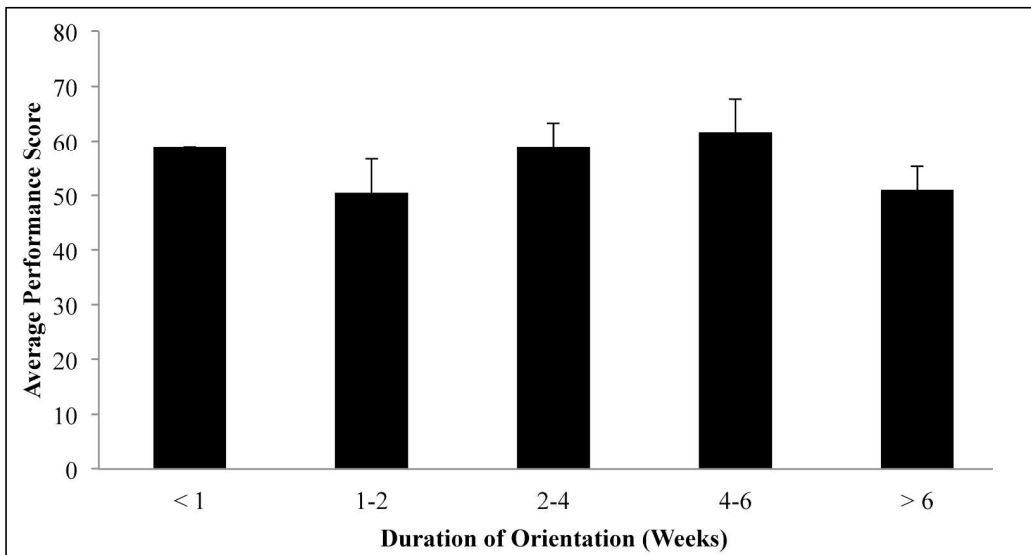
\*This category was presented in the survey as "more than 2 weeks but less than 4 weeks"; as such, the categories did not overlap.

Among the 116 participants who reported on which resources had been very helpful during their transition, 44 (37.9%) selected the trainer pharmacist, 43 (37.1%) selected social supports from other pharmacists, and 38 (32.8%) selected social supports from new graduates and peers (Figure 4).

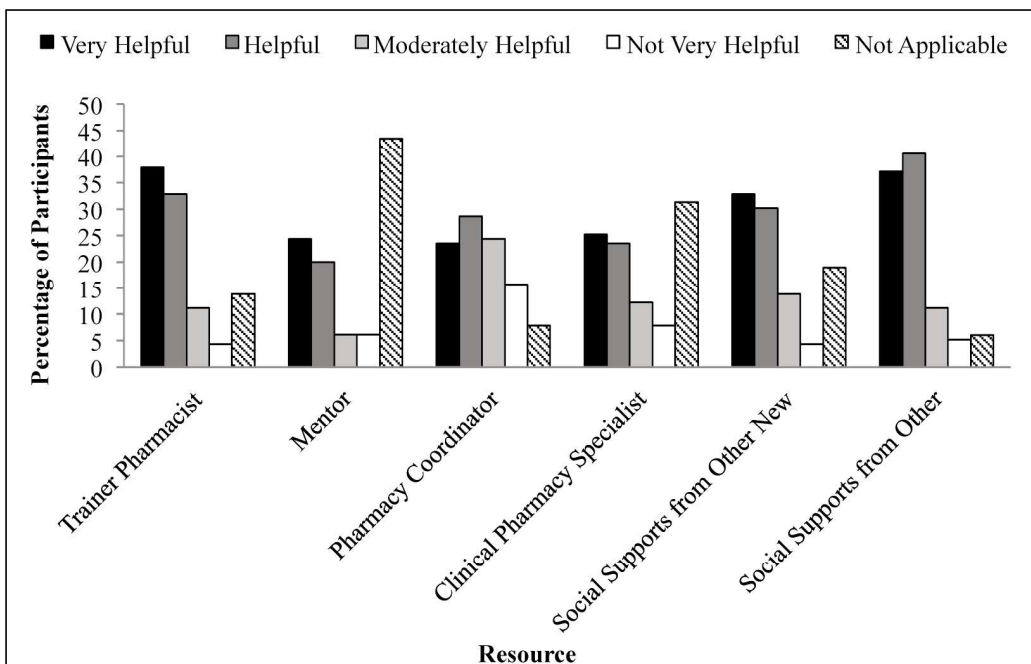
When asked whether their university degree had prepared them to transition into the role of a hospital pharmacist, 27.8% (10/36) of participants who had completed the PharmD program, 17.9% (10/56) of those who had completed a hospital residency, and 20% (2/10) of those who had completed a BSc(Pharm) degree felt that the program had prepared them well. When asked about specific components of their university education program, 22.8% (26/114) identified practicums and 21.1% (24/114) identified case-based learning courses as being very helpful. In contrast, 28.1% (32/114) of respondents reported that simulation/labs were not very helpful, 26.3% (30/114) found that research activities were unhelpful, and 23.7% (27/114) found classroom/theory learning not very helpful.

## Interviews

A total of 3 individuals volunteered to participate in one-on-one interviews ( $n = 1$  for telephone interview;  $n = 2$  for in-person interviews). Two of these participants had completed a hospital pharmacy residency, and one had completed a BSc(Pharm) degree as the highest level of education. The participants had been working as hospital pharmacists for 3 to 10 months. Two individuals had received a formal orientation program, one lasting 4 weeks and the other lasting 6 to 8 weeks. Overall, the participants had differing perspectives. The main barriers identified during these interviews were lack of knowledge, lack of confidence, and lack of comfort in the new role, in addition to impractical expectations and new responsibilities. Limited availability of hospital pharmacy rotations and inconsistency of role identity during university education were reported as additional barriers.



**Figure 3.** Average performance score in relation to duration of orientation among respondents who had been working for 2 years or less ( $n = 16$ ). Note: The category shown here as “2–4 weeks” was presented in the survey as “more than 2 weeks but less than 4 weeks”; as such, the categories did not overlap.



**Figure 4.** Helpfulness of “people resources” during transition period ( $n = 116$  respondents).

Strategies to aid in the transition, either personally experienced or proposed by the participants, included orientation programs with a mentor that incorporated shadowing and independent learning, electronic communication with colleagues,

small-group environments with frequent check-ins, and creation of quick reference resources specific to each ward.

Participants described a successful hospital pharmacist as an individual who was confident, willing to accept and overcome

knowledge gaps, willing to conduct research, effective at prioritizing and balancing tasks, and resourceful for the team. Increasing one's duration of work experience in the role of a hospital pharmacist and completing more education were proposed as strategies to facilitate transition into a successful clinician.

## DISCUSSION

In this study, an association was found between the performance score and role satisfaction, with higher performance scores being correlated with greater job satisfaction. Given that higher performance scores indicated successful transition, it is important to ensure timely transition to promote pharmacist practice that is satisfying. Leveck and Jones<sup>16</sup> have shown that factors such as job satisfaction influence retention of staff nurses, as well as the quality of care they provide. In the current study, the following factors were incorporated in the performance score calculation, and they are therefore key areas on which to focus in order to maximize role satisfaction: confidence in communication and practice, prioritization of tasks to be performed, seeking of assistance, improvement in knowledge and experience, provision of acceptable preparation and expectations, and delegation of tasks.

Years of experience as a hospital pharmacist and highest level of education were other factors that influenced successful transition in this study. Given that work experience and education are related to knowledge and confidence, placing a greater emphasis on hospital pharmacy practice during university education may help students to develop a clear and realistic role identity and thus hasten their transition.<sup>5,7,10</sup> To help develop students' professional identity, curriculums need to focus on direct observation of role models, increased patient contact and responsibility, experimentation, and evaluation.<sup>6,9-12</sup> In the current study, implementing practicums and case-based learning courses with a particular focus on hospital practice was identified as a method to aid with transition. Encouraging hospital pharmacists to become preceptors would put them at the forefront of creating realistic expectations among students before graduation and would also provide further opportunities for career advancement.<sup>5,7</sup>

In an assessment of graduate nurses in a previous study, stress levels were found to be greatest during the initial 6 months of work, and subsequently decreased from the 9th to the 12th month of practice.<sup>17</sup> In contrast, the current study found that regardless of level of education, hospital pharmacists required support, especially during their first year of practice.

Research involving new nurses, allied health professionals, and physicians has suggested that early support systems are needed to facilitate successful transition.<sup>3,4,7,18-20</sup> Examples of these strategies include clinical supervision, mentorship programs, and team assistance. Similarly, increasing accessibility to peer support and encouragement of peer teaching were suggested in this study as means to enhance transition. Mentorship programs are effective because they allow informal exchange of knowledge and experi-

ence between the mentor and mentee.<sup>21</sup> Mentorship benefits everyone involved by encouraging more reflection and greater acquisition of knowledge and skills, as well as job satisfaction.<sup>18,21</sup> Group environments are known to optimize the quality and quantity of learning.<sup>22</sup> Creating small-group learning environments for new graduates and encouraging regular meetings with hospital pharmacists who work in similar areas may aid transition. Team assistance with a small group may be a feasible way to maximize electronic communication between colleagues, and may allow the leader or mentor to facilitate regular check-ins, as well as providing opportunities for leadership development. In this study, it was unclear why most participants responded that the mentor was not applicable as a "people resource" during transition. Because formalized mentor assignment was not standard practice at all sites in LMPS, it is possible that participants did not recognize mentors as an official resource. The presence and quality of mentors and mentorship programs should thus be further explored in future studies.

Orientation programs are additional support systems known to hasten transition, decrease anxiety, and develop realistic expectations and job satisfaction.<sup>23</sup> In this study, there was very little difference between orientation programs less than 1 week in duration and longer programs (up to 6 weeks in duration). The presence of an orientation program was beneficial in terms of average performance score, even though the relationship to duration was inconsistent. Therefore, depending on the individual, site, and area of practice, longer orientation programs may not always be necessary, and it may be reasonable to provide shorter programs. The key is to extend provision of an effective support system well beyond the initial orientation, making such support available for the first 12 months of practice. Interestingly, Casey and others<sup>17</sup> also found that graduate nurses in acute care required support beyond their formal orientation period.

In addition to optimizing training, focus should be placed on limiting the number of practice areas, as the average performance score was higher among individuals working in a specialty area than among those in nonspecialty areas. Limiting the number of practice areas that a new hospital pharmacist is expected to cover would allow them to expand their knowledge and experience within select areas, which would assist with their transition. Fujino and Nojima<sup>24</sup> made a similar recommendation in their study analyzing the effects of ward rotation on clinical nurses. Those authors concluded that rotating among multiple wards increased role stress and emotional distress, and that the rotation experience needs to be optimized for confidence, professional advancement, and personal development.<sup>24</sup>

A limitation of the study presented here was the limited number of participants who were early in their career or had a BSc(Pharm) as their highest level of education. It would have been beneficial to have a larger number of these pharmacists to provide insight into the barriers and strategies they encountered. In

addition, the questions in the survey were not validated for use in a population of hospital pharmacists.

## CONCLUSION

This study showed that the key barriers to the transition of students to successful hospital pharmacists were limited time working as a hospital pharmacist, lack of additional pharmacy education, lack of knowledge, rotation among multiple areas, uncertainty about role identity, and limited university preparation. The main strategies identified to assist with transition into the hospital setting were limiting the number of practice areas, developing an orientation program, and providing continued support from trainers and colleagues during the first year of work. Given that job satisfaction is linked to successful transition, it is important to continue studying how to improve the transition of staff into the role of hospital pharmacists. In addition, trialling innovative structures for orientation and mentorship programs would help in outlining key features that need to be optimized for successful transition.

## References

1. Boychuk Duchscher JE. A process of becoming: the stages of new nursing graduate professional role transition. *J Contin Educ Nurs*. 2008;39(10):441-50.
2. Anderson ML, Goodman J, Schlossberg NK. *Counselling adults in transition: linking Schlossberg's theory with practice in a diverse world*. New York (NY): Springer Publishing Company; 2012.
3. Morley M. Moving from student to new practitioner: the transitional experience. *Br J Occup Ther*. 2006;69(5):231-3.
4. Kumaran S, Carney M. Role transition from student nurse to staff nurse: facilitating the transition period. *Nurse Educ Pract*. 2014;14(6):605-11.
5. Sutton G, Griffin MA. Transition from student to practitioner: the role of expectations, values and personality. *Br J Occup Ther*. 2000;63(8):380-8.
6. Prince KJAH, Van de Wiel MWJ, Van der Vleuten CPM, Boshuizen HPA, Scherpbier AJJA. Junior doctors' opinions about the transition from medical school to clinical practice: a chance of environment. *Educ Health*. 2004;17(3):323-31.
7. Brennan N, Corrigan O, Allard J, Archer J, Barnes R, Bleakley A, et al. The transition from medical student to junior doctor: today's experiences of tomorrow's doctors. *Med Educ*. 2010;44(5):449-58.
8. Kennedy S, Kenny A, O'Meara P. Student paramedic experience of transition into the workforce: a scoping review. *Nurse Educ Today*. 2015;35(10):1037-43.
9. Noble C, Coombes I, Nissen L, Shaw PN, Clavarino A. Making the transition from pharmacy student to pharmacist: Australian interns' perceptions of professional identity formation. *Int J Pharm Pract*. 2015;23(4):292-304.
10. Noble C, Coombes I, Shaw PN, Nissen LM, Clavarino A. Becoming a pharmacist: the role of curriculum in professional identity formation. *Pharm Pract (Granada)*. 2014;12(1):380.
11. Noble C, O'Brien M, Coombes I, Shaw PN, Nissen L, Clavarino A. Becoming a pharmacist: students' perceptions of their curricular experience and professional identity formation. *Curr Pharm Teach Learn*. 2014;6(3):327-39.
12. Loewen PS, Jelescu-Bodos A, Yeung J, Lau T. The effect of transitioning from residency to pharmacy practice on learning style. *Am J Pharm Educ*. 2014;78(8):Article 147.
13. Rush K, Adamack M, Gordon J. *Expanding the evidence for new graduate nurse transition best practices* [proposal]. Vancouver (BC): Michael Smith Foundation for Health Research (MSFHR); 2013.
14. Casey K, Fink R. *The Casey-Fink graduate nurse experience survey revised: utilization*. SurveyMonkey; [cited 2018 Apr 30]. Available from: <https://s.zoomerang.com/r/SVXX66P?sm=q7rSg5s8LL8YQNqJNltYAA%3d%3d>
15. Davis-Kennedy K. *The lived experience: transitioning from a nurse practitioner student to an employed nurse practitioner* [dissertation]. Phoenix (AZ): University of Phoenix; 2014.
16. Leveck ML, Jones CB. The nursing practice environment, staff retention, and quality of care. *Res Nurs Health*. 1996;19(4):331-43.
17. Casey K, Fink R, Krugman M, Propst J. The graduate nurse experience. *J Nurs Adm*. 2004;34(6):303-11.
18. Agllias K. Student to practitioner: a study of preparedness for social work practice. *Aust Soc Work*. 2010;63(3):345-60.
19. Smith RA, Pilling S. Allied health graduate program - supporting the transition from student to professional in an interdisciplinary program. *J Interprof Care*. 2007;21(3):265-76.
20. Hoffer L, Thomas K. Transition of new graduate nurses to the workforce: challenges and solutions in the changing health care environment. *N C Med J*. 2016;77(2):133-6.
21. Blanchard SB, Blanchard JS. The prevalence of mentoring programs in the transition from student to practitioner among U.S. dental hygiene programs. *J Dent Educ*. 2006;70(5):531-5.
22. Eraut M. Learning from other people in the workplace. *Oxford Rev Educ*. 2007;33(4):403-22.
23. Brown J. *Employee orientation: keeping new employees on board*. Alexandria (VA): International Public Management Association for Human Resources.
24. Fujino M, Nojima Y. Effects of ward rotation on subsequent transition processes of Japanese clinical nurses. *Nurs Health Sci*. 2005;7(1):37-44.

---

**Jasminder Mourh**, BSc(Pharm), ACPR, is a Clinical Pharmacist, Maternal Fetal Medicine, Child and Adolescent Psychiatry, Neonatal and Pediatric Pharmacy, Surrey Memorial Hospital, Surrey, British Columbia.

**Brandi Newby**, BSc(Pharm), ACPR, is Coordinator with the Neonatal and Pediatric Pharmacy, Surrey Memorial Hospital, Surrey, British Columbia.

**Competing interests:** None declared.

### Address correspondence to:

Jasminder Mourh  
Neonatal and Pediatric Pharmacy  
Surrey Memorial Hospital  
Critical Care Tower, Room 2-602  
13750 96th Avenue  
Surrey BC V3V 1Z2

**e-mail:** [Jasminder.mourh@fraserhealth.ca](mailto:Jasminder.mourh@fraserhealth.ca)

**Funding:** None received.