

Postgraduation employment experiences of new pharmacists in Ontario in 2012–2013

Paul Gregory, MLS; Zubin Austin, BScPhm, MBA, MISc, PhD



ZUBIN AUSTIN

Anecdotally, pharmacy educators in Ontario have heard stories about a contracting and increasingly difficult job market for new graduates. We undertook this study to better understand this situation and its implications for students, employers and patients.

En Ontario, des enseignants en pharmacie entendent parler d'un marché de l'emploi de plus en plus difficile pour les nouveaux diplômés et d'un recours fréquent aux contrats.

Nous avons entrepris cette étude dans le but de mieux comprendre cette situation et ses conséquences pour les étudiants, les employeurs et les patients.

© The Author(s) 2014
DOI: 10.1177/1715163514543766

ABSTRACT



Background: A recent shift in the pharmacy workforce away from stable, long-term employment has been reported by students. Few data exist regarding the postgraduation employment experiences of students.

Methods: An electronic survey exploring postgraduation employment experiences was distributed to 2012–2013 graduates from the Universities of Waterloo and Toronto (including the International Pharmacy Graduate program). Follow-up interviews were undertaken to explore survey findings.

Results: Three key themes emerged: 1) the rising prevalence of the "survival job" in pharmacy; 2) tension between professional satisfaction and practical considerations; and 3) an employment market characterized by personal networks, not merit.

Discussion: Fewer students are securing full-time positions with benefits, and more are relying upon temporary, part-time work with multiple employers. Implications of this employment pattern for the ability to form pharmacist-patient relationships and provide pharmaceutical care require further investigation.

Conclusion: Further exploration of themes identified in this study is required, as is annual study of the experiences of new graduates. Their experiences will shape the future of professional practice and are of interest to academics, educators and practitioners. *Can Pharm J (Ott)* 2014;147:290-299.

Background

There has been increasing public interest in perceived changes in the employment market-place faced by new graduates.^{1,2} Worldwide, the role and value of a university degree, even within the professions, are being questioned, as more and more young people report difficulty in finding "traditional" employment offering full-time hours, attractive benefits and stable long-term prospects.³ Even purportedly stable fields such as medicine now report under- or unemployment among new graduates: The Royal College of Physicians and Surgeons of Canada recently published a report titled "What's really behind Canada's unemployed specialists? Too

many, too few doctors?" noting that "16% of new specialist and subspecialist physicians said they cannot find work; 31% pursue further training (beyond their post-MD specialty or subspecialty) to become more employable."

The term "precarious employment" has been coined to describe the experience of job seekers who, despite their extensive education and stated intentions, are only able to find piecemeal, contract or short-term work. Traditionally, pharmacy has been considered a safe, stable and moderately lucrative profession. These traditional features of the pharmacy employment workplace have been a strong driver of students' interest in the profession itself. Over

the past half-decade across Canada, there have been significant changes in the ways in which pharmacies—and pharmacists—receive remuneration for the goods and services they provide. This has led many to believe that the employment market for pharmacists has shifted significantly and negatively for pharmacists,⁷ particularly in Ontario.

Human resources data within the profession of pharmacy exist but do not adequately capture the experiences of recent graduates in the workforce. The purpose of this study was to identify and describe characteristics of the current "job market" for recent pharmacy graduates and to describe the impact of hiring and employment practices on the practice of new pharmacists in Ontario.

Methods

Recent graduates from pharmacy programs in Ontario were the focus of this study. Inclusion criteria for this study were Item 1 below and *either* Item 2 *or* Item 3:

- 1. Licensure as a pharmacist in Ontario between January 1, 2012, and March 31, 2013.
- Successful completion of the BScPhm degree from either the University of Toronto or the University of Waterloo between January 1, 2012, and March 31, 2013.
- 3. Successful completion of the International Pharmacy Graduate (IPG) certificate program at the University of Toronto between January 1, 2012, and March 31, 2013.

To collect data, a survey was developed and piloted, initially with a cohort of 20 recent graduates from the University of Toronto. This study used quantitative, scaled questions and provided respondents with opportunities to offer their own insights and commentary through text boxes (which could then be analyzed qualitatively). Following pilot testing and refinement, an online version of the survey was developed using the SurveyMonkey platform. The survey was distributed via e-mail to graduates meeting inclusion criteria from the University of Toronto's BScPhm and IPG programs as well as the University of Waterloo's BScPhm programs. Due to concerns raised during the ethics review

KNOWLEDGE INTO PRACTICE



- The shifting economics of the pharmacy business model may produce less permanence and stability in the employment market, and this has implications for development of pharmacist-patient relationships and uptake of clinical services by new graduates.
- Most recent graduates in Ontario appeared to secure the number of hours they hoped to work, although for approximately 50% this meant suboptimal, part-time or temporary work, spread across various different employers in less-desired geographic areas.

process, e-mail lists were not provided directly by the universities or the regulatory body; instead, a research assistant contacted student leaders in each of the 3 cohorts and worked with them to circulate a request to participate in this study directly. Survey respondents were also invited to indicate their willingness to participate in a telephone-based follow-up semi-structured interview to discuss their experiences in greater detail. No compensation was available for study participants or interview subjects.

Survey data were divided into qualitative and quantitative components for analysis. Quantitative survey data were managed using Statistical Product and Service Solutions v.21 (SPSS). Qualitative survey and follow-up interview data were managed using NVivo v9. Qualitative data and interview transcripts/field notes were coded by 2 independent reviewers, who then worked to develop a consensus on themes and priorities emerging from the analysis. A third reviewer was available to address disagreements but was not used. Both independent reviewers used a constant-comparison method for their analysis, the objective of which is to determine recurring patterns and underlying meanings and themes within the words used by participants, even when the specific words used by individual participants differs.

This study was reviewed and approved by the University of Toronto's Ethics Review Board.

Results

A total of 487 individuals were initially contacted via e-mail; 212 completed some or all parts of the survey (response rate = 43.5%). Selected results from the survey are presented in Table 1. Results from the survey formed the basis for the interview protocol that was developed to guide semi-structured interviews to confirm themes raised

TABLE 1 Summary of survey results (percentages/means and ranges reported to enhance readability)

Age of respondent ($n = 212$)	27.2 years (23-49 years)	
Male to female ratio ($n = 204/212$)	33%:67%	
Program of graduation ($n = 210/212$)		
University of Toronto BScPhm Program	111 (52.9%)	
University of Toronto IPG Program	52 (24.8%)	
University of Waterloo BScPhm Program	47 (22.3%)	
Estimated total student debt load from all sources at graduation (in \$) for those students reporting any student debt load ($n = 152$ of 212 respondents)	Mean: \$44,108 (\$1000- \$130,000)	
Estimated annual salary/income from all sources of employment as a pharmacist ($\$$) ($n = 212/212$)	Mean: \$81,375 (\$41,500- \$135,000)	
Alignment between salary expectations prior to graduation with actual annual salary/income from all sources of employment as a pharmacist ($n = 210/212$)		
Very satisfied with alignment	25 (12%)	
Satisfied with alignment	37 (17.8%)	
Unsatisfied with alignment	140 (66.5%)	
Very unsatisfied with alignment	8 (3.6%)	
Type of first professional practice position(s) as a pharmacist ($n = 210/212$)		
Full-time permanent salaried position with benefits	106 (50.3%)	
Full-time permanent salaried position without benefits	14 (6.8%)	
Multiple part-time salaried positions, all with benefits	3 (1.7%)	
Multiple part-time salaried positions, only some or none with benefits	47 (22.3%)	
Full-time contract position <6 months in duration	7 (3.4%)	
Full-time contract position >6 months in duration	29 (13.6%)	
Other (e.g., locum, casual, ad hoc, as-needed, etc.)	4 (1.9%)	
Alignment between expectations for type of first professional practice position(s) and actual position itself ($n = 210/212$)		
Very satisfied with alignment	28 (13.3%)	
Satisfied with alignment	89 (42.4%)	
Unsatisfied with alignment	71 (33.8%)	
Very unsatisfied with alignment	22 (10.5%)	
General satisfaction with quality of first professional practice position as a pharmacist (<i>n</i> = 210/212)		
Very satisfied with quality	40 (19.4%)	
Satisfied with quality	73 (35.2%)	
Unsatisfied with quality	65 (30.9%)	
Very unsatisfied with quality	32 (15.5%)	

TABLE 1 (continued)

Length of job search time required to secure first professional practice position ($n = 212/212$)	
≤1 month	61 (28.8%)
1-2 months	11 (5.2%)
2-3 months	105 (49.5%)
3-4 months	9 (4.2%)
4-5 months	2 (0.9%)
5-6 months	2 (0.9%)
>6 months	
>0 Monus	22 (10.5%)
Number of hours/week of pharmacy employment, across all practice sites ($n = 212/212$)	Mean: 39.2 hours/week (8-51 hours/week)
Alignment between expectations for hours/week employment as a pharmacist and actual hours/week employment as a pharmacist ($n = 212/212$)	
Very satisfied with alignment	88 (41.5%)
Satisfied with alignment	51 (24.0%)
Unsatisfied with alignment	60 (28.3%)
Very unsatisfied with alignment	13 (6.1%)
Alignment between expectations or preferences for geographic location of primary site of practice as a pharmacist and actual geographic location ($n = 212/212$)	
Very satisfied with alignment	31 (14.6%)
Satisfied with alignment	41 (19.3%)
Unsatisfied with alignment	102 (48.1%)
Very unsatisfied with alignment	39 (18.4%)
Changed primary residence specifically for the purpose of employment ($n = 212/212$)	Yes: 117 (55.2%) No: 95 (44.8%)
If yes, estimated distance moved	Mean: 375 km (4.5-3230 km
Estimated distance from primary residence to primary site of practice (km)	Mean: 11.5 km (0-400 km)
Satisfaction with quality of patient care services provided by pharmacy cited as primary place of practice ($n = 212/212$)	
Very satisfied with quality of patient care services provided by pharmacy	26 (12.3%)
Satisfied with quality of patient care services provided by pharmacy	35 (16.5%)
Unsatisfied with quality of patient care services provided by pharmacy	111 (52.4%)
Very unsatisfied with quality of patient care services provided by pharmacy	40 (18.9%)
Overall general satisfaction with all employment and practice conditions associated with first professional practice position as a pharmacist ($n = 212/212$)	
Very satisfied	41 (19.4%)
Satisfied	74 (35.2%)

(continued)

TABLE 1 (continued)

Unsatisfied	65 (30.9%)
Very unsatisfied	32 (15.5%)
Number of advertisements/recruitment notices responded to prior to securing first professional practice position as a pharmacist ($n = 209/212$)	Mean = 4.1 (0-50)
Number of "cold calls" made to prospective employers ($n = 201/212$)	Mean = 0.2 (0-10)
Number of interviews attended ($n = 208/212$)	Mean = 2.4 (0-11)
Prior to finalizing employment, negotiated with employer to secure better salary, benefits, moving or car allowance, payment of licensing/examination fees, continuing education support, workplace/practice conditions or any other aspects of employment ($n = 201/212$)	
Successfully negotiated change in initial offer related to employment	38 (18.9%)
Negotiated but was unsuccessful in changing initial offer related to employment	2 (0.9%)
Did not negotiate any aspect of employment offer; accepted offer "as-is"	161 (80.1%)

Not all respondents answered all questions: n = 212/487 (response rate: 43.5%). Percentages may not add to 100 due to rounding.

in the survey and to gain further insight into the postgraduation employment experiences of participants.

Of the 212 participants who completed some or all parts of the survey, 115 indicated they would be willing and interested in being contacted for a follow-up telephone-based interview. It was not feasible to interview all those who were interested; a stratified random sampling of interested participants was selected, including 7 graduates from the University of Toronto BScPhm program, 4 graduates from the University of Waterloo's BScPhm program and 3 graduates of the University of Toronto's IPG program. Selected example quotations (based on transcripts and field notes) from the semi-structured postsurvey interview are included in Table 2.

Key findings of this research relate to a misalignment between some recent graduates' expectations for their first professional practice position and the reality of the actual employment market, with 46.3% being unsatisfied or very unsatisfied with the quality of their first professional practice position and 70.1% being unsatisfied with the salary/income they were receiving. While 65.5% of respondents indicated they were satisfied or very satisfied with their total hours per week of employment as a pharmacist, 66.5% were unsatisfied or very unsatisfied with the geographic location of their primary site of practice, and 71.3%

of respondents indicated they were unsatisfied or very unsatisfied with the quality of patient care services provided at their pharmacy.

Discussion

Three major themes were identified: 1) the rising prevalence of the "survival job" in pharmacy; 2) tension between professional satisfaction and practical considerations; and 3) an employment marketplace shifting away from merit toward personal networks.

The rising prevalence of the "survival job" in pharmacy

The term "survival job" has been coined in the sociological literature to describe the phenomenon (most frequently seen with new immigrants) of individuals willingly-and gratefully-accepting underemployment as a result of a highly contested employment marketplace.8 Within the pharmacy context, close to half of participants in this study described short-term contracts, locums or timelimited maternity leave replacements as "survival jobs": Accepting these as a first job in pharmacy is driven by pragmatic concerns and out of a sense of economic desperation, particularly given the amount of student loan debt some students carry upon graduation. Of significant importance is the way in which more than 40% of study participants "gather" hours and salary: through a series of

TABLE 2 Sample quotations from semi-structured postsurvey interview (n = 14 participants)

Interview guide question/prompt	Sample quotations
1. Tell me about the kind of practice environment you are working in right now.	"Well, I have 3 jobs actually. My main job—it's at [XXXX]—I'm there 3 days a week, then I have 1 day a week at [YYYY] and [ZZZZ], well, sometimes more, it just depends on who's there or on vacation, you know? Wow—no wonder I'm confused and don't know where I'm supposed to be!" (IPG)
	"I'm one of the lucky ones—I was working at [hospital XXXX], I worked there as a student for the last 2 summers, and they were able to hire me right away. I was pretty surprised, actually, but it's totally where I wanted to work." (Waterloo)
	"I really didn't want to move (from home), but I guess beggars can't be choosers. It sucks, but it's a job." (UT)
	"It's actually really good. I know—surprise, eh? The manager is amazing—she really wants me to be involved with patient care, with MedsCheck, immunization—it's been great!" (UT)
2. How did you get this job? What was the process like for you?	"I felt desperate for a job and did not care how much they were paying me. It's better than nothing at times like these" (UT)
	"My hiring was heavily influenced by mutual friends—it's now not what you know, it's who you know, I guess." (UT)
	" it all comes down to networking. No one really cares about your abilities, it's just who you know. To most employers, especially at [XXXX], we're all interchangeable anyway, anyone with a pharmacy license will do" (IPG)
	"I was SO grateful to have graduated from a co-op program because of this. The work terms, they really give you a leg-up, because (potential employers) get to see you in action, see what you can do, it's really the best kind of interview you can get." (Waterloo)
3. What are the best and worst things about your current job or jobs?	"How am I supposed to honestly talk about monitoring, follow-up, anything about PC [pharmaceutical care] when I'm only at this pharmacy 10 hours a week? You just end up dispensing, dispensing." (UT)
	"I'm only here 8 hours a week, 1 shift. There's no point in pretending I can actually do anything meaningful for the patient, or that simply leaving the next (pharmacist who works here) a note to follow up will actually change anything. It's not like anything we learned in school or during SPEP [structure practical experience program]." (UT)
	"It's been fantastic—we actually have regulated technicians now so I really do have the time to do the stuff we learned in school." (Waterloo)
	"It's been okay, sort of what I'd have expected. Long days, lots of dispensing, but every once in a while you actually get to do something that, you know, seems like it might matter?" (IPG)
	"I had mainly A's in school—all through school—and I got stuck with [a terrible job]. But it's a job. It's not what you know, it's who you know right now. Which I think is terrible for the profession if employers don't really care about skills or competency, just who they know." (UT)
4. How would you describe the current job market for pharmacists in Ontario?	"The job market sucks right now—you have to be ready and willing to take whatever comes your way. (Waterloo)
	"It's really tough to break out of this cycle of working 8 hours here, 14 hours there, it's like a house of cards, if you try to change one thing it will all come down, so you feel stuck doing this even though you're hoping that magical full-time job will come along." (IPG)

(continued)

TABLE 2 (continued)

Interview guide question/prompt	Sample quotations
	"Compared to when I first started pharmacy, no, it's not at all like I expected it to be—you know, secure, stable, well paying. But compared to the rest of the world, it's still pretty good for me. Plus the job market, it's gotta improve at some point." (UT)
	"Getting a job isn't too bad if you're just willing to move outside the bigger cities." (IPG)
	"You're playing beat the clock right now; if you don't get the full-time job you want within this year, well then next year's graduates will have first crack at those and you'll just be forever stuck with these odd jobs here and there and never really satisfied." (UT)
5. What advice would you give someone looking for a job as a pharmacist in Ontario right now?	"Networking is the most important thing. If employers are just hiring friends or friends-of-friends, well then the whole thing just becomes a case of who likes who, not who is actually best for the job or best for patients, or can actually do what pharmacists are supposed to do." (IPG)
	"Be prepared to move. There are jobs but just not around the corner from where you live." (UT)
	"Reduce your expectations. Of everything." (UT)
	"Don't just settle for the first thing that comes along. I really, really believe there are great pharmacies and great jobs out there and you just have to be patient and be picky and wait for the right thing to come your way." (Waterloo)
6. Looking back on the process you took to get hired, what would you have done differently?	"Gone to (a different pharmacy school)." (UT)
	"I should have been more aggressive and asked for things—more money, more vacation, something. I didn't ask for anything and just took the offer they gave me. That was a mistake, because I have friends who asked for more and got it. They [employers] know they have us in a tough situation now and think we'll be grateful for anything they throw our way. But if you don't ask for more, what you're worth, they won't give it to you." (Waterloo)
	"I would have worried less about doing well in school, getting good grades, and instead tried to get more involved in the profession itself that's how you get jobs, knowing the right people." (Waterloo)
	"I'd be more choosy. I took the first job that came my way. It's okay, but I shouldn't have been so afraid." (UT)
7. Anything else you'd like to share regarding the job market in pharmacy or your experience	"I'm pleasantly surprised. I was afraid, after school, that I'd absolutely hate it. It's actually pretty good." (Waterloo)
	"Don't listen to everyone saying how it's all so terrible. It's totally up to you how your career goes, don't play the victim." (UT)
in your first year	"I'm not sure how much longer I can do this job." (IPG)
of practising in Ontario?	"It's been tough but now more or less, I feel settled. That's a good feeling." (IPG)

UT = University of Toronto BScPhm program; Waterloo = University of Waterloo BScPhm program; IPG = University of Toronto IPG program.

part-time positions rather than through a single full-time position with traditional employment benefits. Respondents noted the stress associated with juggling multiple employers and the way in which this early career pattern impeded them from accepting other sorts of opportunities.

Tension between professional satisfaction and practical considerations

A slight majority of respondents (54.6%) described the actual nature of their employment as a pharmacist as being satisfactory or very satisfactory. Some of those who had reluctantly

moved to gain employment expressed positive surprise at the quality of professional practice they enjoyed as a result of the move, generally from a larger city to a smaller centre. In contrast, and paradoxically, more than 70% of respondents indicated they were unsatisfied or very unsatisfied with the quality of patient care services actually provided by their pharmacy. This tension between general or personal employment satisfaction (e.g., satisfaction with salary, hours of work, location, etc.) and dissatisfaction with the actual quality of professional practice and patient care delivery raises important questions for consideration.

The professional experience of new pharmacists in their first year of practice is important—the idealism and enthusiasm generated within an academically oriented model of patient care practice may be difficult to realize in the real day-to-day world of community practice. While this experience of "falling off a cliff into reality" has been anecdotally described for many years, the nature of professional practice within a precarious employment marketplace has not been fully characterized.

Respondents in this study indicated that they accepted itinerant or contract work among multiple employers as survival jobs. As a result, they reported not being able to actually foster the long-term relationships with patients, prescribers or communities that may organically evolve through traditional full-time employment relationships. Piecemeal employment relationships do not encourage long-term pharmacist-patient relationships, which are at the core of the pharmaceutical care practice model taught at most universities. The finding that piecemeal employment relationships that are becoming dominant for new graduates actually may be producing a practice pattern that is more transactional/episodic and less patient-focused requires further investigation. A common theme among those in precarious, multiemployer employment situations related to dissatisfaction with the quality of patient care that was provided and the belief that this was directly linked to the lack of fulltime work.

For the last decade, pharmaceutical care models taught at Canadian universities have focused on the pharmacist-patient relationship as the core of professional practice. Implicitly, these relationships have been conceptualized as enduring and sustainable, with a model of practice that

MISE EN PRATIQUE DES CONNAISSANCES



- L'économie changeante du modèle de gestion des pharmacies peut causer une baisse de la permanence et de la stabilité dans le marché de l'emploi, ce qui se fait sentir dans l'établissement des relations pharmacien-patient et l'offre de services cliniques par les nouveaux diplômés.
- Dernièrement, les nouveaux diplômés de l'Ontario ont semblé atteindre le nombre d'heures de travail souhaité, bien que pour près de la moitié d'entre eux, il s'agisse d'un travail sous-optimal, à temps partiel ou temporaire, réparti parmi plusieurs employeurs dans des zones géographiques peu convoités.

emphasizes the pharmacist's availability and accessibility to patients, physicians and other care team members. The extent to which this teaching model of practice is actually replicated once students are employed, and methods for adapting this relational model to the emerging reality of a more itinerant pharmacist workforce, require further investigation.

An employment market characterized more by personal networks and less by merit

For many respondents, the cliché "it's not what you know, it's who you know" appeared to hold true in their experience of seeking a first professional practice position. Professional networks, especially previous employment or volunteer experiences, co-op work placements or structured practical training, appear to be the key to gaining the most meaningful types of employment. More than 54% of respondents indicated they were previously employed as a student or intern, and 14% had been previously employed or trained within the organization at another location. The extent to which personal networks govern "successful" postgraduate employment opportunities requires further investigation: Data from this survey could not establish whether those with more elaborate/extensive networks were more likely to secure highly coveted (but rarer) fulltime jobs with benefits, while those without such network had to settle for itinerant, multiemployer practice patterns. Most students believe this is the case, and this may be to the detriment of the profession as a whole. Students from the University of Toronto (whether BScPhm or IPG graduates) noted a perceived disadvantage of not graduating from a co-op education program (such as Waterloo), where multiple exposures to employers and networks are actually built into the curriculum itself.

The implications for an employment marketplace dominated by networks rather than a meritocratic search for talent require further investigation. Educators generally believe that graduates all meet minimal competency expectations and requirements, but there are a range of "excellent" and "merely adequate" graduates—and excellent graduates will drive professional practice forward.

If students' perceptions regarding the networked nature of the employment marketplace are correct, employers are behaving as though all (or most) graduates are interchangeable and will need to be trained and/or refined through workplace experience anyway. Questions as to whether pharmacy programs are adequately preparing students for a network-dominated workplace, or whether employer selection criteria are adequate and appropriate for an evolving competency-based, patient-care-focused profession, are raised by these findings. This disconnect between academics and employers warrants further exploration.

Limitations

This research is a first attempt at characterizing the postgraduation employment marketplace for pharmacy graduates in Ontario. Consequently, there are few formal baseline data upon which to build comparisons; for example, the extent to which new graduates actually have a strong preference for traditional, full-time employment with salary and benefits is not actually known but only inferred. The survey-based method may have produced a response bias in which those

least satisfied with their working conditions had the strongest motivation to participate in this research by responding. Without previous data for comparison and validation, we cannot be certain that our data are truly representative of the entire cohort or only of those with the strongest motivation to respond. It is difficult to make generalizable conclusions from 1 year of limited data; further longitudinal tracking of graduates would be helpful in facilitating more robust insights into the evolving nature of the pharmacy workforce.

Future research

This study has illustrated the value of developing a pan-Canadian system for studying the pharmacy employment marketplace. Sustainable, longitudinal tracking of the pharmacy workforce, and in particular of new graduates' experiences, would be valuable to facilitate better workforce planning and to help educators and employers work together to better support new graduates in their transition from students to pharmacists.

Conclusions

As a first step toward a better understanding of the shifting dynamics of the pharmacy employment marketplace, this study has described the experiences of recent graduates in Ontario as they move from student to practitioner. Misalignment between expectations and realities has resulted in frustration and the framing of the current situation in the pharmacy workforce as a "surplus" or "glut" by some students: Data from a single year of study cannot be used to confirm or refute this assertion.

From the Leslie Dan Faculty of Pharmacy, University of Toronto. Contact zubin.austin@utoronto.ca.

Acknowledgments: The authors wish to thank Ashley Homsma, who participated in collection of data for this study. At the time of this study, Ashley was a PharmD student at the University of Toronto completing a research rotation.

Author Contributions: Mr. Gregory was responsible for data collection and analysis and writing/ editing of manuscript. Dr. Austin was responsible for student supervision, study objective, study design, independent review of data collected and writing/editing of manuscript.

Declaration of Conflicting Interests: The authors declared no potential conflicts of interest with respect to the research, authorship and/or publication of this article.

Funding: The authors gratefully acknowledge the Ontario College of Pharmacists for providing financial support for this project.

References

- 1. Crowley BL. Evaluating the worth of a university degree. *The Globe and Mail* Sept. 5, 2013. Available: www.theglobeandmail.com/report-on-business/economy/economy-lab/evaluating-the-worth-of-a-university-degree/article14115389/ (accessed Dec. 28, 2013).
- 2. Marr G. The value of education is dropping fast for university graduates. *Financial Post* Aug. 26, 2013. Available: http://business.financialpost.com/2013/08/26/the-value-of-education-is-dropping-fast-for-university-graduates/(accessed Dec. 28, 2013).
- 3. Walker I. How much is a degree really worth? *The Guardian* Aug. 20, 2013. Available: www.theguardian.com/higher-education-network/blog/2013/aug/20/graduate-salaries-university-degree-value (accessed Dec. 28, 2013).
- 4. Royal College of Physicians and Surgeons of Canada. What's really behind Canada's unemployed specialists? Too

- many, too few doctors? Available: www.royalcollege.ca/portal/page/portal/rc/advocacy/policy/hrh/examining_specialist_physician_employment (accessed Dec. 28, 2013).
- 5. Vosko L. Precarious employment: understanding labour market insecurity in Canada. Montreal (QC): McGill University Press; 2005.
- 6. Austin Z, Gregory P. Professional students' perceptions of the value, role, and impact of science in clinical education. *Clin Pharmacol Ther* 2007;82:615-20.
- 7. Brown D. From shortage to surplus: the hazards of uncontrolled academic growth. *Am J Pharm Educ* 2010;74:185. Available: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3058448/(accessed Jul. 21, 2014).
- 8. Canadian Press. Survival, but not careers. *Vancouver Observer* June 10, 2011. Available: www.vancouverobserver. com/money/business/2011/06/10/survival-not-careers (accessed Dec. 28, 2013).