Canadian Medical Education Journal

Brief Reports

How are we preparing doctors for their roles as patient educators? Exploring undergraduate and postgraduate curricula in Canadian medical schools

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Published ahead of issue: Sept 29, 2025. CMEJ 2025 Available at https://doi.org/10.36834/cmej.81328

Abstract

Background: Although patient education (PE) has been identified as an important strategy to support patients with low health literacy, medical trainees report feeling ill-prepared for this responsibility. Our goal was to explore how PE training is incorporated centrally into undergraduate (UGME) and postgraduate (PGME) education across Canada, with the aim of proposing a PE curriculum.

Methods: We circulated a web-based survey to all Canadian UGME and PGME Associate Deans, subsequently expanding the scope of our investigation by surveying Family Medicine and Pediatrics program directors. Data analysis involved a combination of frequency calculations and conventional qualitative content analysis.

Results: According to survey respondents, PE was taught centrally in 72% of UGME curricula, 25% of PGME curricula, and 25% and 82% of Pediatrics and Family Medicine programs respectively. PE was predominantly incorporated into communication skills curricula, and role modeling was the most common teaching modality. Barriers included lack of time and low curricular priority; facilitators included embedding PE into communication skills training and use of patient partners and standardized patients.

Conclusions: PE has not been uniformly implemented in a centralized manner across Canadian UGME and PGME curricula. Based on our survey data and the relevant literature, we propose a sample longitudinal curriculum spanning UGME and PGME and recommend that PE be explicitly framed as a communication skill.

Résumé

Résumé français à venir.

Introduction

Approximately 60% of Canadians are not health literate and thus have difficulty obtaining, processing, or understanding information necessary to make health-related decisions.[1] Individuals with limited health literacy are more than 2.5 times more likely to be in fair or poor health;[1] accordingly, there is a need for physicians to be proficient in providing patient education (PE), the practice of teaching patients about their health status and treatment options such that they can make informed health-related decisions.[1-4] The importance of PE has been recognized by many;[5-7] for example, the Association of Faculties of Medicine of Canada (AFMC) working group on Entrustable Professional Activities (EPAs) highlighted PE as a skill that medical trainees should perform independently on their first day of residency.[7] However, despite the established importance of this skill, the literature on this topic indicates that residents may feel ill-prepared to engage in PE,[8] have had limited training on the subject,[9] and perform poorly when asked to identify low health-literacy patients in the clinical environment.[10,11]

Surveys conducted a decade ago in the United States (US) indicated that PE is formally taught in 72% of medical schools[12] and 42% of Family Medicine residencies.[10] While PE training in the US was well-described, no data captures the Canadian landscape for undergraduate (UGME) or postgraduate (PGME) education. The goal of this study was to explore how Canadian UGME and PGME programs centrally teach and assess PE and to identify perceived barriers and facilitators to curriculum implementation, with the aim of proposing a PE curriculum.

Methods

In 2023, with the goal of exploring centralized PE curricula, we surveyed UGME (*n* = 17) and PGME (*n* = 17) Associate Deans across Canada. As PGME curricula are often de-centralized, we asked PGME leadership to describe which specialties offer PE curricula. Responses to this question were grouped together, after which we expanded the scope of our investigation by surveying program directors from two specialties commonly cited by survey respondents: Family Medicine and Pediatrics. To accomplish our objective, we created three iterations of a web-based survey adapted from surveys developed by Coleman et al. (see Appendix A).[12,13] Following modifications based on feedback from four pilot participants, the surveys were translated into French. All study authors are fluent in French and reviewed the professionally translated surveys to ensure accuracy and clarity.

We analyzed multiple-selection questions describing curricular elements by calculating frequencies and used conventional qualitative content analysis to analyze open-ended questions related to barriers and facilitators.[14,15] The content analysis was performed by all three authors, who carried out inductive category development by repeatedly reading the qualitative data provided by respondents and deriving codes. Codes were then sorted into distinct categories and agreed upon by consensus.[14,15]

Results

Response rates

Among the 17 Canadian schools, we received responses from 11 UGME Associate Deans (64.7%) and 12 PGME Associate Deans (70.6%). Subsequently, we received responses from PGME program directors in Family Medicine (*n* = 11; 64.7%) and Pediatrics (*n* = 8; 47.1%).

PE curriculum descriptions

Eight UGME respondents (72.7%) reported that students learn about PE as part of formal curricula. Of these, seven (87.5%) reported either partially or completely incorporating PE into their communication skills curricula, with 3/7 noting that PE was also incorporated into other formal teaching activities. Ten respondents (90.9%) indicated that students learn about PE through role modeling in the clinical setting, although we did not ask participants to specify if this occurred formally or informally.

Only three PGME respondents (25.0%) reported a centralized PE curriculum for residents; eight (66.7%) believed that PE was taught at the specialty level, with many respondents suggesting we follow up with Family Medicine and Pediatrics programs. All three centralized curricula were incorporated into communication skills training. Eleven respondents (91.7%) reported that residents learned about PE through role modeling.

While PE training was formally integrated into 9/11 (81.8%) Family Medicine programs, it was only included in 2/8 (25.0%) Pediatrics programs. PE was commonly embedded within Family Medicine communication skills curricula (63.6%), while the two Pediatrics PE curricula were longitudinal (i.e., taught across four years of training) and included in other unspecified teaching activities. Across both specialties, all respondents (100%) agreed that residents learn about PE through role modeling.

Individuals who offered formal PE training were asked to describe their curriculum content and delivery, teaching modalities, and assessment methods (see Table 1).

Table 1. The frequency of patient education curriculum delivery formats, content areas, teaching modalities, and assessment methods in formal UGME, PGME, and postgraduate Family Medicine and Pediatrics curricula

	UGME (*n* = 8)[a]	PGME (*n* = 3)	Family Med (*n* = 9)	Pediatrics (*n* = 2)
Delivery format				
Series of sessions delivered over time	6 (75%)	0 (0%)	5 (55.6%)	1 (50%)
Workshop or academic half-day session	2 (25%)	2 (66.7%)	1 (11.1%)	0 (0%)
Asynchronous online modules	0 (0%)	1 (33.3%)	0 (0%)	0 (0%)
Incorporated into other learning activities	1 (12.5%)	0 (0%)	2 (22.2%)	1 (50%)
Content areas				
The prevalence of low health literacy	3 (37.5%)	0 (0%)	3 (33.3%)	0 (0%)
The association between health literacy and patient outcomes	5 (62.5%)	1 (33.3%)	3 (33.3%)	0 (0%)
Using plain language for oral communication	8 (100%)	3 (100%)	9 (100%)	2 (100%)
Using plain language for written communication	6 (75%)	0 (0%)	5 (55.6%)	0 (0%)
Using a "teach back" or "show me" technique to check patients' understanding[b]	4 (50%)	2 (66.7%)	7 (77.8%)	2 (100%)
Teaching modalities				
Role modeling	7 (87.5%)	3 (100%)	9 (100%)	2 (100%)
Lectures/didactic sessions	6 (75%)	1 (33.3%)	6 (66.7%)	2 (100%)
Small group discussions	7 (87.5%)	2 (66.7%)	9 (100%)	1 (50%)
Role plays or standardized/ simulated encounters	6 (75%)	2 (66.7%)	6 (66.7%)	2 (100%)
Assigned readings	2 (25%)	1 (33.3%)	2 (22.2%)	0 (0%)
Online modules	1 (12.5%)	1 (33.3%)	1 (11.1%)	0 (0%)
Educational videos	1 (12.5%)	2 (66.7%)	3 (33.3%)	0 (0%)
Assessment methods				
None	2 (25%)	1 (33.3%)	0 (0%)	0 (0%)
Written examination questions	3 (37.5%)	0 (0%)	0 (0%)	0 (0%)
Direct observation in a simulated environment[c]	5 (62.5%)	0 (0%)	2 (22.2%)	2 (100%)
Direct observation in the clinical environment[d]	5 (62.5%)	1 (33.3%)	7 (77.8%)	2 (100%)
Indirect observation in the clinical environment[e]	0 (0%)	0 (0%)	6 (66.7%)	1 (50%)
Videotape review	0 (0%)	0 (0%)	4 (44.4%)	0 (0%)
Self-assessment	0 (0%)	0 (0%)	2 (22.2%)	0 (0%)
Online module post-test	0 (0%)	1 (33.3%)	0 (0%)	0 (0%)
Reflective essay	2 (25%)	1 (33.3%)	0 (0%)	0 (0%)

Legend: *The above data were analyzed quantitatively using frequency counts. [a] The n for each column represents the number of respondents who reported that their school had a formal patient education curriculum; [b] With the "teach back" or "show me" technique, patients are asked to explain what they have just learned in order to confirm their understanding.[18]; [c] e.g., OSCE; [d] e.g., EPA forms, mini-CEX; [e] e.g., case review, chart audit*

Barriers and facilitators

Perceived barriers and facilitators to curriculum implementation were similar across surveyed groups (see Table 2). Commonly cited barriers included lack of time and low curricular priority relative to other topics. The most frequently mentioned facilitators included the integration of PE into communication skills curricula and the use of patient partners and/or standardized patients. Other facilitators included longitudinal programming, direct observation of trainees in clinical settings, and available role models.

Discussion

Although the concept of PE has been referenced in several Canadian medical training documents[5,6] and is recommended by the AFMC as a transition to residency skill,[7] our findings indicate that widespread implementation has not yet been achieved. While most UGME leaders reported centralized delivery of PE training, PGME leaders reported few such curricula at the centralized level. Significant variability was also observed in the two postgraduate specialties that we surveyed to enrich our data, with high uptake in Family Medicine and low uptake in Pediatrics.

Based on our survey data and the pertinent literature (see below and Table 3), we propose a sample curriculum that spans UGME and PGME, aligns with communication skills training, and occurs in classroom and clinical settings.

Curricular components

Curriculum delivery. Most PE training in Canada is embedded into communication skills curricula, a strategy which respondents viewed positively. While components relevant to PE are included within the CanMEDS Communicator role, the phrase PE is not explicitly stated.[15] Formally labeling PE as a communication skill may facilitate more widespread implementation into UGME curricula, where communication skills training is a mandatory accreditation standard;[17] this may also be helpful in PGME, which tends to adhere to the CanMEDS framework. Integrating PE training into communication skills training, as opposed to creating stand-alone sessions, may address the commonly cited barrier regarding lack of time in the curriculum. Furthermore, formalizing PE within the CanMEDS framework may augment its priority.

Longitudinal curriculum design was also highlighted as a facilitator by respondents. Building on this strategy, arranging content across the UGME to PGME learning continuum would foster the progressive assimilation of learning concepts.

Table 2. Barriers and facilitators to curriculum development

Barriers to curriculum development									
	Lack of time	Low curriculum priority relative to other topics	Lack of existing curriculum framework	Reliance on preceptors who prioritize this skill	Not currently an accreditation requirement	Topic best taught via role modeling	Lack of resources	Advanced skill for UGME level	Need for faculty development
UGME	✓	✓	✓	✓				✓	
PGME	✓	✓	✓		✓	✓	✓		
Family Medicine	✓	✓		✓		✓	✓		✓
Pediatrics	✓	✓	✓		✓				
Facilitators to curriculum development									
	Embedding PE into communication skills curriculum	Patient partners and/or standardized patients	Longitudinal curriculum delivery	Direct observation of skills in the clinical environment	Presence of role models with a culture of valuing patient education	Incorporation of a variety of teaching modalities	Embedding PE into a behavioural medicine curriculum	Mentorship	
UGME	✓	✓	✓	✓	✓	✓			
PGME	✓	✓	✓						
Family Medicine	✓	✓		✓	✓	✓	✓	✓	
Pediatrics	✓	✓	✓	✓	✓			✓	

Legend: *The above data were analyzed qualitatively using content analysis.*

Curriculum content. Canadian PE curricula most commonly focus on skill acquisition (using plain language skills for oral communication and "teach back" or "show me" techniques).[18] These content areas are frequently taught in the US as well.[12,13,19] Conversely, the prevalence of low health literacy and its association with patient outcomes (frequently addressed in the United States) are not consistently taught in Canada. These foundational concepts are key to establishing the importance of PE and increasing buy-in. Early awareness of these concepts may also increase trainee recognition of PE opportunities in the clinical environment.

The content areas in Table 3 are adapted from our survey data as well as from health literacy competencies and skills identified in several Delphi consensus studies.[20-24] However, it is worth noting that while health literacy practices can inform PE interventions, these terms are not synonymous. Future research to disentangle these two notions may be useful.

Teaching modalities. Teaching modalities employed in Canada were diverse, including didactic sessions, small group discussions, and role plays. In comparison, American PE curricula described to date favoured didactic sessions, likely as they are less resource-intensive.[12,13,19,25,26] This reliance on didactic sessions for the teaching of PE, however, contradicts the assertion by our respondents that PE is a communication skill, known to require more active teaching strategies (e.g., role plays and simulation).[27-29] Evidence also suggests that trainees become self-directed learners and perform better on examinations when material is taught in small groups.[30,31] In the US, some programs have exposed trainees to individuals with low health literacy, thus providing them with practical experience and highlighting the utility of experiential learning.[13,32,33] Additionally, asynchronous online modules may be considered with the goal of addressing barriers such as lack of time and lack of resources.[34]

Role modeling also emerged as an important teaching strategy, although it is not known whether Canadian programs were integrating this teaching modality within their formal or informal curricula. The literature suggests that role modeling should ideally be active and deliberate.[35,36] However, the quality of learning from a role model is only as strong as the preceptor;[37] thus, faculty development may be beneficial.

Assessment methods. Surveyed programs most commonly assessed trainees through direct observation in a clinical or simulated environment. This is in line with accepted best practices for communication skill assessment, which involves learner observation through Objective Structured Clinical Examinations (OSCEs) or workplace-based assessments (e.g., EPAs).[38,39] When coupled with a subsequent debrief, these modalities offer additional learning benefits.

Table 3. A proposed longitudinal patient education training curriculum across the UGME to PGME learning continuum[a]

Level of training	Objectives	Content Areas	Teaching Modalities	Assessment Methods
UGME	1. Understand the foundations of health literacy and recognize the importance of PE[b] 2. Apply basic oral communication strategies to PE scenarios	Health literacy theory: - The prevalence of low health literacy - The association between health literacy and patient outcomes Oral communication strategies for PE: - Avoiding medical jargon - Using an interpreter when necessary - Engaging with the patient to facilitate retention and recall	Didactic session with review of sample cases Small group discussions, role plays or simulations, and structured debriefs in the clinical environment	None OSCE[c]
PGME	1. Apply more advanced oral communication strategies to a specialty-specific context 2. Identify PE materials relevant to one's chosen specialty, appraise their quality, and develop strategies to review these materials with patients	Oral communication strategies for PE: - Using a "teach back" or show me" technique[d] - Emphasizing one to three "need-to-know" or "need-to-do" concepts - Using a "universal precautions" approach to oral communication[e] - "Chunking and checking"[f] Written communication strategies for PE: - Avoiding medical jargon - Locating and using literacy-appropriate educational materials - Reviewing written materials with patients to enhance understanding	Centralized training: Asynchronous online modules +/- educational videos Specialty-specific training: Role plays or simulations and structured debriefs in the clinical environment Centralized training: Asynchronous online modules +/- educational videos Specialty-specific training: Small group discussions and structured debriefs in the clinical environment	Online module post-test Workplace-based assessment (e.g., EPA[g]) Online module post-test Workplace- based assessment (e.g., EPA[g])

Legend: *[a]All recommendations in this table were informed by the literature and survey responses. Proposed content areas are adapted from health literacy competencies and skills identified in several Delphi consensus studies.[19-23] While content has been assigned to either the UGME or PGME level for the purposes of this sample curriculum, this list is not comprehensive and can be adjusted by educators to suit their own curricular context; [b] PE: Patient education; [c]OSCE: Objective Structured Clinical Examination; [d] With the "teach back" or "show me" technique, patients are asked to explain what they have just learned in order to confirm their understanding; [e]A "universal precautions" approach assumes that all patients may have difficulty understanding information, regardless of their health literacy level, and emphasizes clear, actionable communication for everyone; [f]"Chunking and checking" involves giving patients small amounts of information and checking for understanding before moving to new information; [g]EPA: Entrustable Professional Activity.*

Strengths and limitations

Study findings may be limited by volunteer bias, as it is possible that respondents were more likely to have existing curricula at their institutions, contributing to an overestimated prevalence of PE curricula. Additionally, we only explored two specialty training programs, which were selected because PGME leaders believed that these programs had formal PE curricula. It would have also been of interest to ask respondents whether role modeling was a formal teaching strategy within their curricula. Nonetheless, this study is strengthened by our multi-centre approach and our exploration of both UGME and PGME perspectives to compare teaching strategies and viewpoints across different stages of the learning continuum.

Future directions

From an educational perspective, it will be necessary to raise awareness about the importance of incorporating PE into medical education curricula and to advocate for its inclusion in both UGME and PGME accreditation requirements. Doing so would address the AFMC's curricular recommendations as well as the perception voiced by respondents that PE is of low curriculum priority. Enhanced awareness and priority could also be supported by better defining and labelling PE explicitly within the CanMEDS Communicator Role. From a research perspective, interviews and focus groups would help elaborate successful curricula as well as perceived barriers and facilitators to curriculum implementation. Additionally, rigorous program evaluation of our proposed curriculum would be essential to help advance this agenda.

Conclusions

Our findings indicate that PE training has not been uniformly implemented for undergraduate and postgraduate medical trainees across Canada. We suggest formalizing PE by labelling it as a distinct communication skill and propose a longitudinal curriculum which would require program evaluation before widespread implementation.

Conflicts of Interest: The authors have no conflicts of interest to disclose.
Ethics Approval: This study received approval by McGill's Institutional Review Board.
Funding: The authors gratefully acknowledge funding from the Institute of Health Sciences Education at McGill University for the translation of survey materials.
Edited by: Rebecca Malhi (section editor); Cindy Schmidt (senior section editor); Marcel D'Eon (editor-in-chief)

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Appendix A. Survey questions

Questions[a,b]	Possible Responses[c]
As the individual filling out this survey, what is the title of your position?	Associate Dean UGME/PGME Associate Dean UGME/PGME Program Director Assistant Program Director Other:
Which university do you represent?	Name of university
Do trainees in your program learn about patient education?	Yes No I don't know
Do trainees learn about patient education through role modeling and/or clinical supervision?	Yes No I don't know
Question asked only to centralized PGME leaders: Is patient education formally taught at a program-/specialty-specific level?	Yes No I don't know
Question asked only to centralized PGME leaders: If so, which specialties offer such curricula?	Name of specialty[d]
How is patient education addressed in the formal curriculum?	Patient education is not addressed in the formal, centralized curriculum It is taught as a standalone program It is included within the communication skills curriculum It is included in other formal teaching activities Other:
Is this content compulsory or elective?	Compulsory Elective Other:
In what format is this content offered?	A single session, workshop, or academic half-day session (Follow-up with pre-set options: How many hours of teaching do the students receive on this topic?) A series of sessions delivered over time (Follow-up with pre-set options: How many sessions are provided on this topic?) A course lasting one or more weeks (Follow-up with pre-set options: How many weeks does the course last?)
How is the course content delivered?	Face-to-face Online Hybrid delivery Other:
When does this formal training occur? Select all that apply.	Year 1 Year 2 Year 3 Year 4 Other:
Which of the following content areas are included in the formal curriculum? Select all that apply.	Prevalence of low health literacy Association between health literacy and patient outcomes How to use plain language skills (i.e., the ability to communicate with patients in lay terms, without the use of medical jargon) for oral communication How to use plain language skills for written communication How to use a "teach back" or "show me" technique to check patients' understanding (i.e., asking the patient to state in their own words or demonstrate what they have understood)
Which teaching modalities do you employ to deliver the formal course content? Select all that apply.	Lectures/didactic sessions Small group discussions Role plays or standardized/simulated encounters Videos Assigned reading Online modules Other:
How do you assess the patient education skills of students? Select all that apply.	We do not assess students' patient education skills Self-assessment Indirect observation in the clinical environment (e.g., case review, chart audit) Direct observation in the clinical environment (e.g., mini-CEX, EPA forms) Direct observation in a simulated environment (e.g., OSCE) Videotape review Written examination questions (e.g., multiple choice, short answer) Reflective essay Other:
What do you think enables the teaching of patient education within your program (e.g., existing communication skills curriculum, a patient partnership program)?	Open-ended narrative response
What do you think are barriers to the teaching of patient education within your program (e.g., lack of time in the curriculum, low perceived importance)?	Open-ended narrative response

Legend: *[a]Questions 1-14 (excluding question 6) were analyzed quantitatively using frequencies, and questions 15-16 were analyzed using conventional qualitative content analysis. [b]In certain cases, the phrasing of the questions in this table was generalized (e.g., a survey targeted toward UGME leadership referenced students, while a survey targeted toward PGME leadership referenced residents). [c]Answers listed in this column are also provided in a general manner but were not all offered to each respondent (e.g., in the UGME survey, the only options for the first question would have been "Associate Dean UGME," "Assistant Dean UGME," and "Other"). [d]Responses to this question were grouped together, and the two sub-specialty programs most commonly cited by respondents were selected for the program director survey.*