

RESEARCH

Curricular Inclusion of Health Disparities/Cultural Competence and Health Literacy in U.S. and Canadian Pharmacy Programs

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Objective. To determine how U.S. and Canadian pharmacy schools include content related to health disparities and cultural competence (HDCC) and health literacy (HL) in curriculum and assessment practices.

Methods. A cross-sectional survey was distributed to 143 accredited and candidate status pharmacy programs in the U.S. and 10 in Canada in three phases using Qualtrics. Statistical analysis was performed to assess inter-institutional variability and relationships between institutional characteristics and survey results.

Results. No significant differences were found among the responding institutions, 72 (50%) in the U.S. and 8 (80%) in Canada, after stratification by institutional characteristics. A core group of faculty typically taught HDCC/HL. HDCC was primarily taught in multiple courses across multiple years in the pre-APPE curriculum. While HL was primarily taught in multiple courses in one year in the pre-APPE curriculum in Canada (75.0%), delivery of HL was more varied in the U.S., including in a single course (20.0%), multiple courses in one year (17.1%), or multiple courses in multiple years (48.6%). HDCC/HL was mostly taught at the introduction or reinforcement level. Active learning approaches were mostly utilized in the U.S., whereas in Canada active learning was more frequently utilized in teaching HL (62.5%) than HDCC (37.5%). Few institutions reported providing professional preceptor development.

Conclusion. U.S. and Canada pharmacy schools have wide inclusion of HDCC/HL content; however, less is required and implemented within experiential programs and co-curricula. Opportunities remain to expand and apply information on HDCC/HL content, particularly outside the didactic curriculum, as well as identify barriers for integration.

Keywords: health disparities, cultural competence, health literacy, curricular integration

INTRODUCTION

Racial and ethnic diversity continue to increase in the United States (U.S.) and in Canada. According to recent projections by the U.S. Census Bureau, 56.4% of Americans will belong to a racial or ethnic minority group by 2044 and almost 20% will be foreign born by 2060.¹ Similar trends exist in Canada, where an estimated 30% of Canada's population will be immigrants by 2036.^{2,3,4} Recognizing that racial and ethnic minority populations experience high rates of health disparities, the U.S. Department of Health and Human Services created an action plan to provide guidance in this area.² One of the goals is to "increase the diversity and cultural competency of clinicians" so they are prepared to appropriately incorporate cultural factors into the patient encounter. Along with culture, low health literacy (HL) can also negatively impact health outcomes.³ Approximately 90 million people in the U.S. and 9 million people in Canada experience limited literacy.^{4,5} Low HL disproportionately affects racial and ethnic minorities.⁶

In Canada, the Minister of Health's 2019 mandate letter provides direction to support improved research and care regarding diversity, specifically race.⁷ Indigenous healthcare has received an increased focus since 2015 when the Truth and Reconciliation Commission (TRC) of Canada published 94 Calls to Action. Call to Action 24 requires that students in the health sciences take a course "dealing with Aboriginal health issues, including the history and legacy of residential schools, the United Nations Declaration on the Rights of Indigenous Peoples, Treaties and Aboriginal rights, and Indigenous teachings and practices. This will require skills-based training in intercultural competency, conflict resolution, human rights, and anti-racism."⁸

As the U.S. and Canadian populations become more diverse, it is essential that student pharmacists be prepared to deliver culturally responsive healthcare. Preparation must extend beyond understanding the impact of race and ethnicity on health disparities and provider-patient relationships to a broader conceptualization of the diverse set of patient backgrounds that can influence decision-making and care, such as religion, health beliefs, age, gender identity, sexual orientation, income level, (dis)ability status, and immigration status. Not only is this important for providing patient-centered care, it is also necessary for recognizing, addressing, and decreasing health disparities. Various publications recommend integrating health disparities and cultural competence (HDCC) education and training into pharmacy curricula.^{9,10} The Association of Faculties of Pharmacy of Canada (AFPC) Education Outcomes specifically reference the TRC and encourage a high priority on Call to Action 24 to be placed in curricula.¹¹ The Accreditation Council for Pharmacy Education (ACPE) standards highlight the responsibility of programs to prepare graduates who can recognize social determinants of health (Standard 3). ACPE standards also list cultural awareness as a required element of the didactic curriculum.¹² The American Association of Colleges of Pharmacy (AACCP) Center for the Advancement of Pharmacy Education (CAPE) outcomes note the importance of graduates' ability to modify communication strategies to meet patient needs and incorporate patient beliefs into care plans.¹³ Although multiple entities recommend inclusion of these topics and some accrediting bodies require them, there is little direction on how pharmacy schools should incorporate this content or assess student learning.

A 2007 study by Onyoni and Ives examined the degree to which cultural competency concepts were incorporated into the organizational structure and curricula of accredited colleges/schools of pharmacy (C/SOP) in the U.S. and Canada.¹⁴ Their study found that didactic and case-based instruction were the prevailing pedagogical approaches for cultural competency education and training. While more than half of the responding C/SOP affirmed revisions to their curricula in the past to include topics related to cultural competency, 49% expressed intent to add new courses and topics.¹⁴ Since then, more than 30 new C/SOP have been established in the U.S., and no additional large-scale surveys of cultural competency education and training in curricula have been performed. While HL education has been examined in discrete courses taught in individual C/SOP,¹⁵⁻¹⁷ there has never been a comprehensive national assessment of scope of HL content delivery in the U.S. or Canada.

The purpose of this study was to determine how C/SOP in the U.S. and Canada include content related to HDCC and HL in both their curriculum and assessment practices.

METHODS

This cross-sectional study was conducted using an electronic survey. Faculty investigators from 16 C/SOP convened to develop the survey through consensus. They initially met in four subgroups to identify (1) didactic curriculum questions, (2) experiential curriculum questions, (3) patient populations that should be covered within HDCC/HL curricula and (4) institutional characteristics to request in the survey. The subgroups met as a large group four additional times in spring 2019 to collate and edit survey questions. Survey questions were then piloted at each investigator's institution to ensure clarity, easy navigation, and inform final edits.

The workgroup used the domains listed in the Tool for Assessing Cultural Competence Training (TACCT) to develop questions regarding what cultural competency content C/SOP cover.^{18,19} Currently, the TACCT serves as a validated resource of HDCC content inclusion^{18,19} and is recommended for utilization.^{9,10} Questions related to HL content

covered by C/SOP were based upon overall reviews of published literature on HL and literature highlighting techniques and tools for patient-centered communication and HL assessment, such as the Agency for Healthcare Research and Quality (AHRQ) Pharmacy Health Literacy Center.³⁰ A specific process for searching (pre-specified terms and databases) was not utilized. Additionally, the study team, which included faculty from 16 C/SOP, offered input based on topics covered within their respective programs. These questions were designed to parallel items in the cultural competence portion of the survey.

The finalized survey (available on request from the corresponding author) covered all identifiable areas of pharmacy curricula; it sought to identify the breadth and depth, *i.e.*, introduction, reinforcement, mastery, of HDCC/HL teaching that exist in accredited pharmacy programs across the U.S. and Canada. At the outset, common terms and abbreviations, such as HL, didactic curriculum, interprofessional education, and introduction/reinforcement/mastery were defined for respondents to refer to as needed. Survey respondents were not required to respond to all items. The survey contained the following four sections:

1. Content and Delivery – timing and type of content delivered in didactic, pre-Advanced Pharmacy Practice Experience (APPE) pharmacy curricula (4 items)
2. Active Learning, Topics and Populations – use and type of active learning strategies, as well as populations covered (7 items)
3. Faculty – level of faculty involvement in content delivery (1 item)
4. Experiential – type of content incorporated into Introductory Pharmacy Practice Experiential (IPPE) and APPE experiences, as well as preceptor development (4 items)

The survey was distributed using a modified Dillman approach²⁰ across three phases in the U.S. and Canada using Qualtrics (Provo, Utah). Phase 1 took place in May and June 2019. The survey was distributed to 143 accredited and candidate status pharmacy programs in the U.S. and 10 Canadian programs. Phase 2 began in June 2019 and continued until August. In this study phase, a member of the research team telephoned or e-mailed C/SOP that had not responded to the survey during Phase 1. Emails contained a personal greeting, survey invitation language, a study reminder, and the electronic survey link. In August 2019, Phase 3 of data collection was completed with a final reminder distributed only to non-responders.

Individuals were identified as being predominantly responsible for the management and/or delivery of HDCC/HL content within the curriculum for each respective pharmacy program using a Google form sent via AACP listservs or the institutional website. These individuals received the survey for their institution. If a key person was not identified, the survey was sent to an assessment and/or academic affairs administrator, who was asked to identify the appropriate person to complete the survey. Institutional Review Board approval was received from all 16 institutions collaborating on this investigation.

Data were analyzed using IBM SPSS v. 26.0 (Armonk, NY). Descriptive statistics were performed for institutional demographics and characteristics related to student population, geographical location, and private versus public status. Chi squared tests were used for nominal or ordinal data to assess inter-institutional variability and relationships between institutional characteristics and survey results.

RESULTS

Seventy-two of the 143 (50.3%) U.S. C/SOP and eight of the 10 (80%) Canadian C/SOP participated in the survey, for an overall response rate of 52.3%. However, not all respondents answered all questions, as noted in the tables. Over half of participating C/SOP in the U.S. were private (n=41, 56.9%), four were Historically Black Colleges and Universities (HBCU, 5.6%), and four were Hispanic-Serving Institutions (HSI, 5.6%). All Canadian C/SOP were public, not faith-based, and had no designations (Table 1).

HDCC and HL were typically taught across institutions by less than 25% of the faculty at that college or school (Table 1). HDCC was primarily taught in multiple courses across multiple years in the pre-APPE curriculum. HL was primarily taught in multiple courses in one year in the pre-APPE curriculum in Canada. In the U.S., approaches to delivery of HL content were more varied and included a single course, multiple courses in one year, or multiple courses in multiple years (Table 2).

Concerning HDCC content breadth, more than 50% of U.S. institutions taught six of the seven TACCT domains, with the use of interpreters taught the least frequently (Table 3). Regarding depth, most HDCC content was taught at the introductory (24.6-54.7%) or reinforcement (20.3-67.7%) level rather than the mastery level (1.6-21.5%). Less than 30% of C/SOP incorporated the use of interpreters and when incorporated, it was most often at the introductory level (54.7%). In Canada, six of the seven HDCC domains were taught by 50% or fewer of schools at the introductory (12.5-50%) or

reinforcement (12.5-62.5%) level. The most commonly taught domain (62.5%) was self-reflection/culture of pharmacy (eg, addressing power imbalance between provider and patient and addressing personal bias) (Table 3).

Regarding HL content breadth, most U.S. institutions taught all HL topics. The highest level at which most content was taught was introductory or reinforcement (Table 3). Plain language/clear communication of oral/verbal strategies and written strategies was taught consistently at the higher levels (reinforcement 42.2-48.4% and mastery 15.6-20.3%). In Canada, more than 50% of C/SOP taught most of the HL concepts (with the exception of tools to measure HL); however, there was variation in the level taught. Scope of the problem of health literacy was taught at the reinforcement or mastery level, tools to measure patient health literacy was taught at the introductory level solely, and assessing suitability of written materials was taught at the introductory or reinforcement level. The plain language/ clear communication items covered all levels. (Table 3).

Active learning approaches were utilized in most U.S. C/SOP to teach HDCC and HL topics (Table 4). In Canada, active learning was more frequently utilized in teaching HL than HDCC (50% HL vs. 25% HDCC). Frequently utilized (40% or more of programs) active learning approaches for HDCC included case studies/video case studies, reflective writing/surveys, objective structured clinical examinations (OSCEs), role-plays, and cultural simulation games/activities. For HL, nearly half of the U.S. programs indicated that they used case studies along with simplifying or creating educational materials (51.4% and 47.2%, respectively). Common patient populations included in >60% of U.S. and Canadian C/SOP curricula were: racial/ethnic groups, poverty/low-income, sexuality and gender issues, religion/spirituality, mental illness, disabilities, uninsured/underinsured, and older adults (Table 5).

In the U.S., HDCC and HL concepts were included in approximately one-third of IPPE and APPE evaluations (see Table 2). Although mostly taught in elective APPE and elective co-curricular experiences, some schools (<23%) included HDCC and HL in required IPPE, APPE, or co-curricular experiences. In Canada, <25% of C/SOP included HDCC or HL as required or elective IPPE or APPE experiences. Only one institution included HDCC or HL in IPPE/APPE evaluations, co-curriculum experiences (required or elective), or required APPE experiences (Table 2).

U.S. institutions most commonly collected data regarding patient populations and health beliefs encountered (IPPE n=17, 33.3%; APPE n=21, 40.4%), but rarely collected other information, such as the percentage of patients from a certain ethnic or patient group (n=2, 2.8%) or whether or not students had experienced any diverse populations (n=1, 1.4%). One program in Canada gathered information about patient populations or health beliefs encountered during APPEs.

In total, approximately one-fourth of U.S. institutions reported providing faculty professional development related to HDCC (n=4, 7.1%) and HDCC/HL (n=11, 19.6%). Institutional interests in pursuing advanced credentialing in HDCC were positive (Yes: n=22, 34.9%; Maybe: n=37, 58.7%). No Canadian institutions provided professional development on HDCC or HL concepts; however, almost two-thirds of the responding institutions (n=5, 62.5%) were interested in pursuing advanced credentialing options.

Differences between C/SOP characteristics were examined. No significant differences were found among the responding institutions after stratification by the type of institution (public vs. private) in the use of active learning ($p=.38$) and the level of faculty involvement ($p=.18$). There also were no differences in the level of faculty involvement by designation ($p=.45$). No significant differences were found in the utilization of active learning by the level of faculty involvement ($p=.92$), designation ($p=.99$), or faith-based/not faith-based ($p=.247$). U.S. faith-based institutions had significantly higher percentages of faculty involvement ($p=.04$; see footnote in Table 1).

DISCUSSION

This is the first and largest evaluation of the inclusion of HDCC and HL concepts since the assessment by Onyoni and Ives, which focused on the inclusion of cultural competency in the mission, curriculum, and experiential programs of C/SOP.¹⁴ In that study, most respondents included cultural competency in some form, primarily in didactic and case-based education, but perceived a need to expand education in the curriculum.¹⁴ Since 2007, HDCC and HL content has been included in multiple courses and includes many key topics. While there is still much ground to cover and training to enhance student learning, significant progress has occurred.

More than half of U.S. C/SOP participated, and the survey responses were fairly representative of the U.S. academy, with both private (57%) and public (43%) institutions responding. According to AACP's Vital Statistics, 52% of C/SOP are private and 48% are public.²¹ There also was a high response rate for Canadian C/SOP (80%). Therefore, the selection bias at the school level was minimized in our study, which improves generalizability. This study revealed that most C/SOP addressed HDCC (97.2% U.S., 75.0% Canada) and HL (95.7% U.S., 100% Canada), but few schools included these concepts throughout the entire curriculum, particularly when including experiential education, and training rarely achieved mastery level. HDCC received more reinforcement than HL. Further, results revealed limited integration

within the experiential curriculum with few faculty members responsible for delivering the content. Except for plain language/clear communication topics (verbal or written), other HL topics were taught at introductory or reinforcement levels. Given the value and significance of clear communication, a greater number of C/SOP should strive for higher levels of achievement (mastery) by offering opportunities to incorporate health literacy-tailored communication principles in IPPE, APPE, and co-curricular areas. Also, given the HDCC and HL issues faced by some population groups, such as the elderly and those who are obese, it was surprising that C/SOP in the U.S. covered these population groups to a lesser extent in the pre-APPE curriculum. However, this was not the case in Canadian C/SOP. One explanation may be that population groups such as those who are elderly or obese may have been accounted for in other categories (eg, elderly patient who is a racial or ethnic minority).

One area of focus for C/SOP should be the inclusion of how to work with interpreters. A small portion of C/SOP (26.2% U.S., 16.7% Canada) included such content in their curricula, yet student pharmacists and pharmacists frequently engage with patients whose preferred language is different from their own. In Canada, 14.5% of residents speak a non-official language (i.e., not English or French) at home, and 22.9% have a non-official language as their mother tongue.²² With 23% of U.S. residents speaking English not well or not very well²³ and 20.7% speaking a language other than English at home,²⁴ pharmacists should be skilled in working with medical interpreters to communicate effectively with their patients. The 2013 American College of Clinical Pharmacy White Paper recommended that two student learning objectives be included in pharmacy curricula, “Identify patients who would benefit from an interpreter and work efficiently with an interpreter.”¹⁰ Some C/SOP have included interpreters during APPE experiences,²⁵ but limited pharmacy literature is available regarding inclusion of these concepts. Given the availability of various interpreter services, such training could be an asset in educating student pharmacists.

Curricular integration may be of three types: horizontal integration where multiple disciplines teach and reinforce concepts; vertical integration where concepts are repeated throughout the curriculum and in the experiential setting; and spiral integration where concepts are not only readdressed throughout the curriculum, but each time the concepts have greater complexity.²⁶ We would argue that curricular integration of HDCC and HL content should include both horizontal and vertical, wherein HDCC and HL concepts are taught in multiple courses over multiple years. While increasing complexity should be an ideal aim for programs, it would require substantial coordination and would entail faculty development to match teaching skills to the desired level of complexity. Many C/SOP indicated interest in options for advanced credentialing in this area; thus, there could be an opportunity for the Academy to provide resources to support faculty in teaching this content.

Given that cultural sensitivity and patient communication are included in ACPE Standard 3,¹² the inclusion of HDCC and HL concepts in the co-curriculum would serve to further augment student learning of these concepts in the didactic and experiential curriculum as well as be an ideal location to further vertical integration efforts. Integration efforts in the academic pharmacy literature highlight examples within an academic year across courses and include both didactic and lab-based coursework²⁷ or didactic, lab, and experiential coursework.¹⁷ Some institutions have intentionally expanded content throughout the curriculum by integrating across multiple didactic courses in each academic year with skills lab integration²⁸ or with skills lab and IPPE integration.²⁹

Although the “pre-APPE” definition was provided at the beginning of the instrument, some respondents may have interpreted the term to include IPPE. Items that specifically included the term IPPE may have helped to minimize variability in interpretation. Despite the survey containing only 16 items, survey fatigue may have occurred since many items required retrieval of information to provide an adequate response. When distributing the survey, investigators identified key faculty. However, in cases where no key faculty member was identified, the C/SOP assessment leads were the chosen survey recipients. Assessment leads may not have known as much information about HDCC and HL integration as key faculty who teach this content. The process by which respondents completed this instrument is unknown, eg, whether they organized faculty for a more complete response or made assumptions independently. Credentials or expertise of faculty teaching HDCC and HL were not requested. In some of the Canadian C/SOP there was a transition to the Pharm.D. program, which was mandated as the entry-to-practice degree for 2020. At the time of the survey, the participants may have been referencing their completed B.Sc. while others had transitioned completely to the Pharm.D. curriculum. Finally, there were no restrictions placed on the survey to ensure consistency in answers. For example, respondents could have indicated that they did not teach an area while also later indicating that the area was taught at the reinforcement level.

CONCLUSION

Though pharmacy programs in Canada and the U.S. have wide coverage of HDCC/HL-related content, less content is required and implemented within experiential programs and co-curricula, despite the AFPC Outcomes emphasizing the

TRC and ACPE Standards 2016 requiring inclusion of cultural sensitivity. Barriers exist for C/SOP to substantially integrate these topics, which are likely multi-factorial and go beyond the scope of this survey. Depth of content remains primarily at the introductory or reinforcement level rather than mastery. Opportunities remain to expand and apply information on HDCC/HL content, particularly outside the didactic curriculum, as well as identify barriers to integration of this content across universities.

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Table 1. College/School of Pharmacy Characteristics^a

| | U.S. Colleges/Sc hools (N=72) n (%) | Canadian Colleges/Schools (N=8) n (%) |
|------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------|
| Type of Institution | | |
| Private | 41 (56.9) | 0 (0.0) |
| Public | 31 (43.1) | 8 (100.0) |
| Accreditation Status | | |
| Accredited | 67 (93.1) | 8 (100.0) |
| Candidate Status | 5 (6.9) | 0 (0.0) |
| Designation | | |
| None | 52 (72.2) | 8 (100.0) |
| Land-Trust | 10 (13.9) | 0 (0.0) |
| HBCU | 4 (5.6) | 0 (0.0) |
| Hispanic-Serving Institution | 4 (5.6) | 0 (0.0) |
| Other ^b | 3 (4.2) | 0 (0.0) |
| Faith-Based | | |
| Yes | 13 (18.1) | 0 (0.0) |
| No | 59 (81.9) | 8 (100.0) |
| Faculty Involvement in Teaching HDCC and Health Literacy Topics^c | | |
| One faculty member | 4 (6.3) | 0 (0.0) |
| A few key faculty (<5%) | 27 (42.9) | 6 (75.0) |
| A core group of faculty (5-25%) | 21 (33.3) | 1 (12.5) |
| A moderate amount of faculty (26-50%) | 7 (11.1) | 1 (12.5) |
| More than half of faculty (>50%) | 4 (6.4) | 0 (0.0) |

Key: HBCU, historically black colleges and universities; HDCC, health disparities and cultural competency.

^aSurvey responses were not forced, allowing institutions to skip questions as desired. The percentage has been adjusted for the percentage of schools who responded to the question.

^bLand-grant, sea-grant, or space-grant; HBCU and land-grant; land-grant/sea-grant.

^cDifferences between non-faith-based and faith-based institutions, respectively: one faculty member: 8%, 0%; a few key faculty: 45%, 33%; a core group of faculty: 31%, 42%; moderate amount of faculty: 14%, 0%; more than half of faculty: 2%, 17%; most faculty: 0%, 9%; p=0.04).