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An Evidence-Based Cultural Intelligence Framework for Doctor of Pharmacy Education

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Abstract

Pharmacists must possess the attitudes, knowledge, and skills required to deliver culturally intelligent, patient-centered care; however, formal training in this area remains limited. To effectively prepare future pharmacists, clear standards and structured curricula for cultural intelligence are needed within pharmacy education. The purpose of this study was to develop a cultural intelligence framework (CIF) tailored to pharmacy education and to examine its relevance to Doctor of Pharmacy (PharmD) training. A comprehensive review of the literature examining existing approaches to cultural intelligence education informed the development of the CIF. The framework integrates established cultural intelligence models used in health professions education with Bloom's Taxonomy. Five student focus groups were conducted to explore learners' cultural experiences and to map these experiences to the CIF. All focus group sessions were audio-recorded, transcribed verbatim, deidentified, and deductively coded using the CIF as an analytic guide. All four CIF domains—awareness, knowledge, practice, and desire—were represented across the five focus groups, although individual participants did not consistently demonstrate all domains in their narratives. Most students described experiences reflecting cultural awareness, knowledge, and motivation, while fewer participants reported engagement in cultural practice. Differences in responses were noted based on participants' racial backgrounds and their stage within the pharmacy curriculum. This study provides an initial contribution to understanding how cultural intelligence is taught and experienced in pharmacy education. The proposed CIF offers an evidence-based framework that may support the intentional development of cultural intelligence and assist in preparing pharmacy students to become socially responsible and patient-centered health care professionals.

Keywords: Cultural competence, Curriculum design, Cultural intelligence, Qualitative research, Diversity

Introduction

The growing racial and cultural heterogeneity of the United States health care landscape requires practitioners to develop cultural intelligence as a core professional competency to ensure equitable and effective care [1, 2]. Cultural intelligence encompasses the capacity to interpret and respond appropriately to diverse cultural values, belief systems, attitudes, and nonverbal behaviors, and to apply this understanding with empathy in cross-cultural interactions [3-6]. In the absence of intentional education and skill development, health care professionals may unconsciously reinforce dominant norms rooted in White, ableist, and heteronormative frameworks, which continue to contribute to persistent and well-documented inequities in health care delivery [7, 8]. These inequities are reflected in national quality metrics, as White patients received higher-quality care on approximately 40% of evaluated measures in 2019 compared with Black patients and American Indian/Alaska Native populations [9].

Pharmacists occupy a unique position within the health care system due to their accessibility and frequent interactions with patients, particularly in providing medication counseling and supporting adherence [10]. Because of this trusted and frontline role, pharmacists must be prepared to engage patients using culturally

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intelligent approaches [2, 3]. Despite this need, pharmacy education has historically provided limited instruction in cultural intelligence, especially in areas related to identifying implicit bias and addressing social determinants that influence health outcomes [11]. Evidence suggests that unexamined stereotypes, prejudicial attitudes, and implicit biases among health care providers can directly contribute to racial and ethnic disparities in care [12, 13].

Although concepts such as cultural competence, cultural awareness, cultural humility, and cultural sensitivity have been widely used to describe culturally responsive practice, cultural intelligence is conceptually distinct due to its grounding in intelligence theory [3]. This framework emphasizes four interconnected dimensions—metacognitive, cognitive, motivational, and behavioral—that collectively enable individuals to function effectively in culturally diverse environments [4-6]. As articulated by Richard-Eaglin, cultural intelligence serves as a foundational approach that encourages practices aligned with diversity, equity, inclusion, and a sense of belonging within health care settings [14].

Several models intended to support culturally responsive health care, including cross-cultural competence [15] and cultural competence [16], have informed professional practice. However, research focusing specifically on health professions students has remained limited and has largely prioritized efforts to increase student diversity rather than transform educational content or pedagogy [15-17]. While strengthening diversity within the future health care workforce is essential [18], representation alone does not ensure that graduates are prepared to deliver culturally intelligent care.

Intentional curricular design is therefore necessary to support the development of cultural intelligence within pharmacy education [19-22]. National organizations have acknowledged this need. The American Association of Colleges of Pharmacy (AACP) incorporated cultural sensitivity into its 2013 Center for the Advancement of Pharmacy Education (CAPE) Outcomes, emphasizing students' ability to recognize social determinants of health as a mechanism to reduce inequities in care [19]. Similarly, the Accreditation Council for Pharmacy Education (ACPE) 2016 Standards identify cultural awareness as an essential component of pharmacy training, defining it as the examination of how cultural values, beliefs, and practices influence patient care outcomes [20]. The American College of Clinical Pharmacy (ACCP) has also emphasized the importance of patient-centered and culturally sensitive care and highlighted the responsibility of pharmacy education in preparing practitioners to meet these expectations [21, 22]. Nevertheless, despite agreement across accrediting and professional bodies, limited direction exists regarding how these expectations should be operationalized within pharmacy curricula [21-23].

Existing cultural initiatives in pharmacy education have often been episodic, outdated, and insufficiently grounded in a unifying theoretical framework capable of supporting long-term and meaningful change [21, 23]. Many curricular approaches have emphasized health disparities without adequately addressing the systemic, structural, and historical factors that give rise to those disparities, which may inadvertently lead students to associate cultural diversity with adverse health outcomes [13]. Furthermore, empirical evidence examining the relationship between cultural intelligence training, student experiences, and health care outcomes within professional education remains sparse [15, 24]. Accordingly, the purpose of this study was to develop a cultural intelligence framework (CIF) tailored to pharmacy education and to evaluate its alignment with the experiences of Doctor of Pharmacy (PharmD) students.

Materials and Methods

The cultural intelligence framework (CIF) presented in this study was constructed using an in-depth synthesis of scholarly literature related to cultural education within health care. A broad literature search was conducted using keywords and phrases including cross cultural competen*, cultural competen*, health care cultural education, cross cultural education, cultural competenc* framework, and cultural competen* education. The framework intentionally adopts the term cultural intelligence rather than cultural competence or cross-cultural competence to underscore the concept of cultural development as a dynamic and ongoing process, rather than a fixed endpoint that can be fully achieved. Although the scope of the search was limited to health care–related literature, it was not restricted to any single professional discipline such as medicine, nursing, or pharmacy.

Framework development involved combining the Association of American Medical Colleges (AAMC) guidance on cultural competence education with the Four

Factor Model of Cultural Intelligence proposed by Van Dyne and colleagues, alongside additional foundational studies [5, 6, 16, 17, 25]. These sources were critically evaluated and integrated by the research team into a cohesive conceptual model tailored to pharmacy education. The finalized CIF identifies four interconnected domains that collectively represent cultural intelligence as a lifelong learning continuum **(Figure 1)**. Cultural awareness is defined as an ongoing process of introspection and critical evaluation of one's personal cultural identity and assumptions [17, 26]. Cultural knowledge refers to the active and continuous pursuit of information about diverse cultural groups [5, 6, 17, 26]. Cultural practice encompasses meaningful engagement with patients from varied cultural backgrounds, including the ability to elicit culturally relevant information related to the patient's condition and to conduct assessments that are informed by cultural context [17, 26]. Cultural desire represents the internal drive of health care professionals to willingly and consistently engage in the process of developing cultural intelligence over time [5, 6, 17].

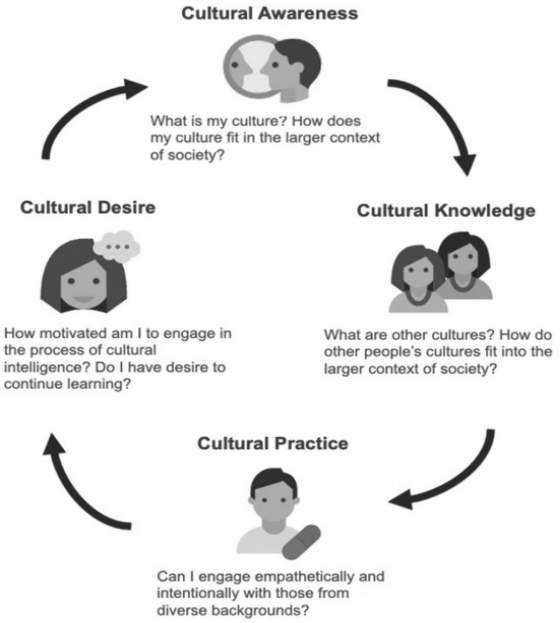

Figure 1. The four interconnected domains of the cultural intelligence framework

To operationalize the Cultural Intelligence Framework (CIF) for instructional use, domain-specific learning objectives were constructed using Bloom's taxonomy as an organizing principle **(Table 1)** [27, 28]. Rather than limiting objectives to a single cognitive level, each CIF domain was mapped across multiple levels of learning complexity. Within the cultural awareness domain, objectives span the full taxonomy, including remembering, understanding, applying, analyzing, evaluating, and creating. Development within this domain begins with the identification of cultural variation both between and within groups, advances to comprehension of how cultural factors influence patient care and contribute to health inequities, and culminates in higher-order cognitive engagement. For each learning objective, the research team outlined representative assessment approaches to illustrate potential methods for evaluating student performance.

Once the CIF was finalized, qualitative inquiry was used to examine how pharmacy students' lived experiences aligned with the framework. Participant recruitment occurred at the UNC Eshelman School of Pharmacy using a combined purposive and chain-referral strategy. Initial participants were identified by the Associate Dean for Organizational Diversity and Inclusion based on demonstrated involvement in diversity, equity, and inclusion (DEI) efforts. These students were then invited to recommend additional peers with similar interests. All identified students received email invitations to participate in a virtual, 60-minute focus group hosted via Zoom (Zoom Video Communications, Inc).

Fifteen PharmD students across all professional years (P1–P4) participated in the study and were distributed across five focus groups conducted in July 2020. Individual focus groups included between two and four participants, with scheduling determined by student availability. In the interest of reflexivity, it is noted that the facilitator of the focus groups self-identified as a White female and was serving as a postdoctoral research fellow at the time of the study, with no instructional, evaluative, or supervisory relationship with participants.

The focus group discussion guide was intentionally designed to elicit examples of cultural intelligence corresponding to each of the four CIF domains. Students were asked to reflect on positive clinical encounters with patients whose cultural backgrounds differed from their own and to describe elements that contributed to successful communication. To further explore the cultural awareness domain, participants were prompted to consider how their own cultural identities influenced these interactions. Students were also reminded that cultural difference encompasses a broad range of attributes, including but not limited to race, ethnicity, nationality, religion, age, and sexual orientation.

Throughout data collection, detailed observational notes were maintained, and all focus group sessions were audio recorded, transcribed verbatim, and stripped of identifying information prior to analysis. A deductive analytic approach was employed, with two members of the research team (DL and LM) adapting the CIF into an analytic codebook [29]. Using MAXQDA software (VERBI Software, Berlin, Germany), both researchers jointly coded 60% of the transcripts to promote analytic consistency and shared interpretation. The remaining transcripts were coded independently by both researchers, with intercoder reliability exceeding 80%, meeting established standards for agreement [29]. Discrepancies were resolved through discussion until consensus was achieved. Analytic memo writing was used continuously to capture evolving interpretations and emerging themes [30]. Frequency analysis was subsequently conducted to identify the CIF domains and learning objectives most frequently represented in the dataset. The study was reviewed and deemed exempt by the Institutional Review Board at the University of North Carolina at Chapel Hill.

Results and Discussion

Most study participants (N=15) were women (n=11, 73%), the majority identified as Black, Indigenous, or People of Color (BIPOC) (n=9, 60%), and over half had finished at least three years of pharmacy school (n=8, 53%). The four domains of the Cultural Intelligence Framework (CIF) appeared across all focus groups, although individual participants did not necessarily touch on every domain or objective. Coding revealed cultural awareness as the most prominent (n=98 out of 257 codes, 38%), followed by cultural knowledge (n=78, 30%), cultural desire (n=54, 21%), and cultural practice (n=27, 11%).

Responses varied noticeably by racial and ethnic background. White students' remarks on cultural awareness generally reflected recognition of differences among cultures (remember) and insight into how those differences might influence patient care (understand). BIPOC students, however, went further: they not only identified and comprehended cultural distinctions but also explained how their personal cultural identity informed their worldview and interactions (apply), reflected on their own potential biases (analyze), and considered how their level of awareness influenced their clinical behavior (evaluate). One BIPOC student explained, "I have an innate connection to my community because it reflects my own background. The school curriculum didn't provide that understanding—it comes from my identity and lived experience, which helped me navigate and respond effectively in certain patient situations."

Differences also emerged related to other identity factors, such as religion, sexual orientation, gender identity, and age. For instance, one participant described: "Being gay, I've personally faced stigma when accessing healthcare. Discussing sexual health issues with some providers left me feeling judged and uneasy, while others were welcoming and nonjudgmental, which encouraged me to be more forthcoming about my needs and led to better conversations. I now apply that lesson in my own pharmacy practice—patients seem more willing to share openly when they sense genuine openness from me."

This account showed cultural awareness by acknowledging personal experiences of stigma and its effect on healthcare interactions (understand), examining how the participant's identity affected their comfort level and communication with providers (analyze), and reflecting on how those insights now guide their approach to building rapport with patients (evaluate).

Year-in-program differences were apparent as well. Third- and fourth-year (P3 and P4) students described experiences that aligned with almost all six objectives within the cultural knowledge domain, whereas first- and second-year (P1 and P2) students mostly addressed basic comprehension of cultural variation (understand), barriers in intercultural exchanges (apply), and culture's role in care quality. Higher-level objectives (evaluate and create) were rarely mentioned by earlier-year students.

Detailed findings are structured below by CIF domain, illustrated with participant examples. Every participant displayed cultural awareness, typically by identifying cultural variations (remember), grasping their potential impact on care delivery (understand), and reflecting on how their own background shaped their behavior (analyze). One BIPOC student remarked, "Mental health carries significant stigma in many African American communities. Drawing from my own cultural experience, that awareness guided me when supporting a patient of African descent—I made a deliberate effort to offer support without judgment and to act as an ally."

In this case, the student reflected on cultural norms within their community and then considered how that insight enabled them to create a safer, more supportive interaction with the patient.

Regarding cultural knowledge (six objectives: understand, apply, analyze, evaluate–culture, evaluate–disparities, and create), participants most often discussed practical approaches to overcoming cultural obstacles for patients (create), situations that required examining culture's influence on care outcomes (analyze), and typical difficulties in cross-cultural dialogue (apply). A BIPOC student illustrated this by saying, "When counseling a Hispanic patient with diabetes, it's essential to understand their typical diet so you can offer realistic advice for healthier eating and better glucose control. You can't simply advise everyone to shop at upscale grocery stores for fresh produce if their access is limited to canned options."

This example addressed all six objectives: assessing cultural dietary patterns and related socioeconomic disparities, examining culture's effect on care effectiveness and communication hurdles, and suggesting a practical adjustment, such as rinsing canned vegetables to lower sodium intake.

Some responses covered only one or two objectives. A white student noted, "In the pharmacy assistance program where many patients speak Spanish, we're trained to always use professional interpreters—even for simple transactions like checkout—because critical details can easily be missed otherwise." This reflected knowledge of an effective barrier-reduction strategy through reliable interpretation.

Cultural desire was evident in all participants, who could describe the concept (remember) and explain why pursuing cultural intelligence matters for pharmacists (understand). One white student shared, "Last summer I completed a rewarding rotation at a federally qualified health center serving mostly uninsured or Medicaid patients. It was eye-opening to learn about their unique challenges and how pharmacists can serve as a vital community resource to address them." Fewer participants, however, outlined concrete steps to build their cultural intelligence (create), assessed their current abilities (analyze), or described applying it directly with patients (apply). A BIPOC student commented, "I'm not sure what resources exist for learning about cultures different from my own, and I don't recall the curriculum highlighting any. For me, the richest exposure has come from volunteering at a clinic with a highly diverse patient population."

Outside the framework, participants of all backgrounds expressed hope that classmates would strengthen their cultural intelligence. One BIPOC student observed, "My own needs for growth differ greatly from what I believe my white classmates without minority experience require. My background already gives me familiarity with many of these issues, so my priority is for peers to acquire foundational awareness before they begin caring for patients from marginalized groups." Students often mentioned seeking out elective opportunities themselves while noting low participation from others. A white student said, "Much of what I've learned came from choosing extra experiences because I wanted to grow in this area. I'm thankful for those opportunities, but I truly wish every classmate had access to the same."

Cultural practice appeared far less frequently. Few participants showed clear understanding of cultural variations likely to arise in practice settings (understand), ways to elicit relevant cultural details during encounters (understand), ability to perform patient cultural assessments (apply), or suggestions for team-level barrier reduction (create).

When cultural practice did surface, it mainly involved reviewing the success of communication strategies in patient interactions (evaluate). A bilingual BIPOC student pointed out, "Even with professional interpreters, key nuances can be lost, especially when patient and interpreter speak significantly different regional dialects. I've observed consultations where the patient's words were translated in a way that changed their intended meaning." This highlighted limitations of interpretation services.

In instances where participants addressed understand, apply, evaluate, and create objectives, they frequently highlighted their restricted authority as learners. One BIPOC student recounted, "As a student working under a preceptor, your influence is limited—you can speak up and advocate, but the pharmacist makes the final call. At a pain clinic, I felt the preceptor was dismissing the reported pain severity of a Black female patient. I was upset, pushed back, and tried to support her perspective, but ultimately I couldn't change the outcome." This demonstrated recognition of a potential cultural issue and an attempt to intervene, despite lacking final decision-making power.

To our knowledge, this investigation is the first to design a Cultural Intelligence Framework (CIF) specifically for pharmacy education and to examine how well this framework aligns with the lived experiences of Doctor of Pharmacy students. Drawing on established models of cultural intelligence within health professions education, the CIF was adapted for PharmD training and

intentionally aligned with Bloom's taxonomy to articulate concrete and progressive learning outcomes. Analysis of student experiences revealed that participants most frequently described elements of cultural awareness, cultural knowledge, and cultural desire. This emphasis on cultural awareness aligns with prior scholarship indicating that cultural intelligence development begins with self-awareness and reflection on how one's cultural background influences perceptions and behaviors [31, 32].

In contrast to prior research that has relied primarily on quantitative instruments such as surveys or questionnaires (eg, the Clinical Cultural Competency Questionnaire) [33], this study employed focus groups to examine cultural intelligence. The qualitative approach created opportunities for students to articulate their perspectives in a personal and contextualized manner, allowing for richer discussion of their experiences, concerns, and reflections [2, 34-36]. This method captured nuances that may not emerge through survey-based approaches alone, including participants' recommendations for curricular integration and their expressed concern that cultural intelligence development should extend to their peers [37].

Although most participants demonstrated learning objectives across all four CIF domains, both the depth and frequency of these expressions varied by race and ethnicity. These findings mirror previous research showing that students from BIPOC backgrounds often demonstrate more advanced levels of cultural awareness compared with their White counterparts [2, 32, 34]. Such variation suggests that cultural intelligence instruction should be responsive to the characteristics and needs of the student population. Differences across program year cohorts may also reflect the increased exposure of P3 and P4 students to experiential learning environments, which provide more frequent opportunities to engage in culturally complex practice situations [2, 38]. Accordingly, educational strategies should move beyond foundational knowledge and provide structured opportunities for students to apply, analyze, and critically evaluate how culture influences professional practice.

The cultural practice domain was less evident in participant narratives. This may indicate limited opportunities for students to exercise agency in clinical settings or insufficient preparation to translate cultural intelligence into practice-based decision making. Prior research has shown that inconsistent integration of cultural competency and health literacy content across curricula is associated with declines in student performance on validated assessment tools [38, 39]. Despite limited discussion of cultural practice, participants identified multiple strategies for strengthening curricular integration, including exposure to diverse faculty, practitioners, and patients through panel discussions; structured reflection during introductory pharmacy practice experience (IPPE) preparation courses; and deliberate incorporation of health disparities and structural barriers (eg, insurance limitations, language access) into patient case scenarios.

Culture is inherently complex, fluid, and multidimensional. Evidence indicates that achieving full "competence" in any single culture is unrealistic and may inadvertently reinforce stereotyping or oversimplification [7, 8, 11-13]. Findings from this study underscore the importance of embedding cultural intelligence education longitudinally across both didactic and experiential components of the PharmD curriculum and assessing it systematically to ensure students are developing appropriate knowledge, skills, and professional behaviors. The CIF, in conjunction with the UNC Eshelman School of Pharmacy's DEI Strategic Plan, is currently being used to guide the integration of culturally intelligent instruction, training, and assessment. Because participants reported encountering culturally relevant experiences across multiple contexts—including coursework, experiential education, and co-curricular activities—the school is actively exploring strategies to intentionally incorporate cultural intelligence development across all learning environments.

Looking ahead, the CIF offers a potential mechanism for standardizing cultural intelligence education, assessment, and training across colleges and schools of pharmacy, while remaining adaptable for use in other health professions programs. For such efforts to be effective, they must be embedded within broader institutional strategies that promote shared accountability, support the recruitment and retention of diverse learners, and foster a workforce prepared to address health inequities. Ultimately, advancing cultural intelligence among health care practitioners may enhance their ability to engage respectfully and effectively with the increasingly diverse populations they serve and contribute to more equitable health outcomes for historically marginalized communities.

Further research is warranted to evaluate the CIF across additional schools and colleges of pharmacy, as well as

within other health professions education settings. Longitudinal studies examining changes in students' cultural intelligence before and after targeted training are also needed. Given observed differences across demographic groups and program cohorts, future work should explore how cultural intelligence development varies among students from diverse backgrounds [18, 40]. Additional research is needed to identify and refine inclusive pedagogical strategies that effectively reduce bias and address disparities within pharmacy education. Such efforts are essential to expanding the emerging body of literature focused on diversity, bias, and cultural education in the pharmacy profession [41].

Several limitations should be considered when interpreting these findings. The study was conducted at a single institution with a relatively small sample size, which may limit generalizability. Purposeful recruitment may have introduced selection bias, as participants were likely more interested in diversity-related topics. Social desirability bias may also have influenced participant responses. Additionally, the focus group facilitator self-identified as a White female postdoctoral fellow, which may have shaped participant engagement. Despite these limitations, students appeared willing to engage candidly, and many expressed appreciation for the opportunity to share their experiences and perspectives.

Conclusion

The Cultural Intelligence Framework provides a theory-informed foundation for designing, implementing, and evaluating cultural intelligence education within pharmacy programs. By offering a structured yet flexible approach, the CIF supports the preparation of pharmacy students as socially responsible and culturally responsive health care professionals. This study contributes to the growing understanding of how cultural intelligence is experienced and conceptualized within pharmacy education. Future research will expand this work through additional qualitative inquiry and by examining the applicability of the CIF across PharmD curricula at other institutions.

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References

1. National Population by Characteristics: 2010-2019. https://www. census.gov/data/tables/time-series/demo/popest/2010s-national-detail.html#par_textimage_1537638156. Accessed June 2, 2021.
2. Okoro ON, Odedina FT, Reams RR, Smith WT. Clinical cultural competency and knowledge of health disparities among pharmacy students. Am J Pharm Educ. 2012;76(3):40. doi:10.5688/ajpe76340
3. Livermore DA. The Cultural Intelligence Difference: Master the One Skill You Can't Do Without in Today's Global Economy. New York: AMACOM, American Management Association; 2011.
4. Ang S, Rockstuhl T, Tan ML. Cultural Intelligence and Compten- cies. In Wright JD, ed. International Ecyclopedia of the Social & Behavioral Sciences. Elsevier; 2015:433-439.
5. Van Dyne L, Ang S, Ng Ky, Rockstuhl T, Tan ML, Koh C. Sub- dimensions of the four-factor model of cultural intelligence: expand- ing the conceptualization and measurement of cultural intelligence. Soc Personal Psychol Compass. 2012;6(4):295-313. doi:10.1111/j. 1751-9004.2012.00429.x
6. Ang S, Van Dyne L, Rockstuhl T. Cultural Intelligence: Origins, Conceptualization, Evaluation, and Methodological Diversity. In: Gelfand MJ, Chiu C, Hong Y, eds. Handbook of Advances in Culture and Psychology. Vol 5. Oxford Scholarship Online. 2015.
7. Braveman P. Health disparities and health equity: concepts and measurement. Annu Rev Public Health. 2006;27:167-194. doi:10. 1146/annurev.publhealth.27.021405.102103
8. Smedley BD, Stith AY, Nelson AR. Unequal Treatment: Con- fronting Racial and Ethnic Disparities in Health Care. National Academies Press. 2003
9. Agency for Healthcare Research and Quality. National Health- care Disparities Report, 2019. Rockville, MD: 2019. https://www. ahrq.gov/sites/default/files/wysiwyg/research/findings/nhqrdr/ 2019qdr-final-es.pdf

10. Wenger LM, Rosenthal M, Sharpe JP, Waite N. Confronting inequities: a scoping review of the literature on pharmacist practice and health-related disparities. Res Social Admin Pharm. 2016;12(2): 175-217.
11. Arya V, Butler L, Leal S, et al. Systemic racism: pharmacists' role and responsibility. Am J Pharm Educ. 2020;84(11):Article 8418.
12. Nelson A. Unequal treatment: confronting racial and ethnic dis- parities in health care. J Nat Med Assoc. 2002;94(8):666-668.
13. Dovidio JF, Fiske ST. Under the radar: how unexamined biases in decision-making processes in clinical interactions can contribute to health care disparities. Am J Public Health. 2012;102(5):945-952. doi:10.2105/AJPH.2011.300601
14. Richard-Eaglin A. The significance of cultural intelligence in nurse leadership. Nurs Lead. 2021;19(1):90-94.
15. Betancourt JR, Green AR, Carrillo JE, Ananeh-Firempong O. Defining cultural competence: a practical framework for addressing racial/ethnic disparities in health and health care. Public Health Rep. 2003;118(4):293-302. doi:10.1016/S0033-3549(04)50253-4
16. Campinha-Bacote, J. The process of cultural competence in the delivery of healthcare services: a model of care. J Transcultur Nurs. 2002;13(3):181-184.
17. Campinha-Bacote J. Cultural diversity in nursing education: issues and concerns. J Nurs Educ. 1998;37(1):3-4.
18. Bush AA. A conceptual framework for exploring the experien- ces of underrepresented racial minorities in pharamcy school. Am J Pharm Educ. 2020;84(1):Article 7544.
19. Medina MS, Plaza CM, Stowe CD et al. Center for the Advance- ment of Pharmacy Education 2013 educational outcomes. Am J Pharm Educ. 2013;77(8):Article 162.
20. Accreditation Council for Pharmacy Education. Accreditation Standards and Key Elements for the Professional Program in Phar- macy Leading to the Doctor of Pharmacy Degree ("Standards2016"). Published February 2015. https://www.acpe-accredit.org/ pdf/Standards2016FINAL.pdf. Accessed June 2, 2021.
21. O'Connell MB, Korner EJ, Rickles NM, Sias JJ. Cultural com- petence in health care and its implications for pharmacy: part 1. Overview of key concepts in multicultural health care. Pharmaco-therapy. 2007;27(7):1062-1079.
22. O'Connell MB, Rodrigquez de Bittner M, Poirier T, et al. Cultural competency in health care and its implications for pharmacy part 3A: emphasis on pharmacy education, curriculums, and future directions. Pharmacotherapy. 2013;33(12):e347-e367.
23. Rockich-Winston N, Whatt TR. The case for culturally respon- sive teaching in pharmacy curricula. Am J Pharm Educ. 2019;83(8): Article 7425.
24. Onyoni EM, Ives TJ. Assessing implementation of cultural com- petency content in the curricula of colleges of pharmacy in the United States and Canada. Am J Pharm Educ. 2007;71(2):24.
25. Cultural Competence Education for Medical Students: Assessing and Revising Curriculum, https://www.aamc.org/media/20856/ download? attachment. Accessed June 9, 2021
26. Betancourt JR. Cross-cultural medical education: conceptual approaches and frameworks for evaluation. Acad Med. 2003;78(6): 560-569. doi:10.1097/00001888-200306000-00004
27. Bloom BS, Krathwohl DR. Taxonomy of Educational Objec- tives: The Classification of Education Goals, By A Committee of Col- lege and University Examiners. Handbook 1: Cognitive domain. Longmans. 1956.
28. Anderson LW, Krathwohl DR. (eds.) A taxonomy for learning, teaching and assessing: A revision of Bloom's Taxonomy of educa- tional objectives. Complete edition. Longman. 2001.
29. Miles MB, Huberman AM, Salda~na J. Qualtiative Data Analy- sis: A Methods Sourcebook. 3rd ed. Sage Publishing; 2014.
30. Bhattacharya K. Fundamentals of Qualitative Research: A Prac- tical Guide. Routledge; 2017.
31. Reiche S. Want to become more culturally competent? start with your cultural awareness. Expatriatus Blog Network. 2012. https:// blog.iese.edu/expatriatus/2012/12/05/want-to-become-more- culturally-competent-start-with-your-cultural-self-awareness/ Accessed June 9, 2021.
32. Echeverri M, Dise T. Racial dynamics and cultural competence training in medical and pharmacy

education. J Health Care Poor Underserved. 2017;28(1):266-278. doi:10.1353/hpu. 2017.0023

33. Like RC, Fulcomer M. Clinical Cultural Competency Question- naire (CCCQ). Center for Healthy Families and Cultural Diversity, Department of Family Medicine and Community Health, Rutgers Robert Wood Johnson Medical School. 2001. https://rwjms.rutgers.edu/documents/departments/Family%20Medicine/Grants%20-%20projects/Pretraining.pdf Accessed June 3, 2021.
34. Echeverri M, Brookover C, Kennedy K. Assessing phar- macy students' self-percetion of cultural competence. J Health Care Poor Underserved. 2013;24(10):64-92. doi:10.1353/hpu. 2013.0041
35. Cooper LA, Padiyara R, Qui~nones-Boex A. Pharmacy students'perceptions of cultural comptenence encoutners during practice expe- riences. Am J Pharm Educ. 2014;78(2):Article 31.
36. Calderon JL, Baker RS, Wolf KE. Focus groups: a qualitative method complementing quantiative research for studying culturally diverse groups. Educ Health. 2000;13(1):91-95.
37. Doroudgar S, Dang B, Nguyen H, Matsumoto RR. Assessment of cultural competence in pharmacy students prior to advance phar- macy practice experiences. Am J Pharm Educ. 2021;85(4):Article 7928. doi:10.5688/ajpe/7928
38. Chen AMH, Cailor SM, Wicker E, Harper NG, Franz TT, Pahl B. Integrating health literacy and cultural competency concepts across the Doctor of Pharmacy curriculum. Am J Pharm Educ. 2020; 84(10):Article 7754.
39. Campinha-Bacote J. Inventory for Assessing the Process of Cul- tural Comptence-Student Version. http://transculturalcare.net/iapcc- sv/. Accessed June 3, 2021.
40. Hahn FT, Bush AA, Zhang K, et al. Exploring career engage- ment, interests, and goals of students identifying as underrpresented racial minorities in pharmacy. Am J Pharm Educ. 2020;84(12):Arti- cle 8365.
41. Bush AA, McLaughlin JE, White C. A review of contemporary diversity literature in pharmacy education. Am J Pharm Educ. 2017; 81(7):Article 5961.