Explicitly Addressing Implicit Bias in a Cultural Competence Curriculum for Pediatric Trainees

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Abstract

Background: Medical providers must learn to communicate effectively and demonstrate sensitivity to an increasingly diverse patient population. Implicit bias can contribute to stereotyping and miscommunication. Traditional cultural competence curricula that focus on memorizing lists of customs, beliefs and behaviors may inadvertently increase stereotyping.

Methods: We created a workshop designed to introduce the concepts of implicit bias, health disparities, and individuated care to pediatric trainees. We surveyed participants on perceived preparedness for cross-cultural care prior to and immediately following the workshop. We delivered the workshop twice per year from 2011-14 to a convenience sample of pediatric residents on elective rotations (PGY-1-3) as well as to pediatric subspecialty fellows during their core curriculum.

Results: Fifty-four residents and 21 fellows participated. All completed the pre-workshop survey; 52 completed the post-workshop survey. Ninety-four percent found the workshop useful. At baseline, 92% felt prepared to care for patients from different cultures. This did not change significantly. In aggregate, trainees reported increased skillfulness in assessing the patient's understanding of illness (83% to 92%, p= 0.04) and identifying cultural customs that might affect clinical care (69% to 90%, p=0.01).

Discussion: The workshop was feasible and well received. Although it did not change trainees' perceived preparedness in caring for patients from different cultures, it did improve perceived skillfulness in specific areas important to providing individuated care. Learners may overestimate their preparedness to provide culturally competent care at baseline, which reinforces the need for objective assessment of skills and patient important outcomes around similar interventions in the future.
Introduction

Demographic trends indicate increasing population diversification in developed nations. Today, the multiracial population is the fastest growing underrepresented population in the United States, expanding at a rate three times faster than any other segment. (Parker K, 2015) In medical education, traditional cultural competence curricula have focused on memorizing lists of customs, beliefs and behaviors that typify a given culture. These curricula fail to account for the diversity found within groups and the increasingly multicultural patient population. (Williamson and Harrison, 2010) Educational interventions that emphasize information on cultural groups’ beliefs and practices may inadvertently lead to increased stereotyping. (Macdonald, Carnevale and Razack, 2007) Despite these limitations, the traditional approach to defining and teaching cultural competence remains prevalent in healthcare settings, as evidenced by the databases detailing healthcare beliefs and sensitivities by race and ethnic group that continue to offer "cultural competence at your fingertips." (Culture Vision, 2005-2018)

To date, evaluations of cultural competence curricula have not demonstrated an effect on treatment outcomes or evaluations of care. (Horvat et al., 2014)

Implicit bias is a recognized contributor to disparate care. (Schulman et al., 1999; Green et al., 2007; Chapman, Kaatz and Carnes, 2013; Brooks, 2015) Recent models of cultural competence training embrace a patient-centered approach that reveals implicit biases and arms physicians with the interpersonal skills necessary to cultivate collaborative relationships with patients from varying social, cultural, and linguistic backgrounds. (Dunn, 2002; Mihalic et al., 2010; Stone and Moskowitz, 2011)

To address this evolution in our understanding of cultural competence, we created a curriculum for pediatric trainees designed to increase awareness of implicit bias, its contribution to health disparities, and its impact on clinical practice. The goal of our project was to determine the effect of this new curriculum on learners’ preparedness to provide culturally competent care.

Methods

The Duke pediatric residency training program, located in Durham, NC, trains 17 residents per year (15 categorical, 2 child neurology) in a 190-bed hospital-within-a-hospital and its affiliated clinics. In 2010 the residency program developed a new cultural competence curriculum using a conceptual framework adapted from Burgess et al (Figure 1). (Burgess et al., 2007) This three-hour training utilized a small-group workshop format that incorporated didactic and experiential learning components. The workshop began with a discussion of changing demographics, diversity identity, and the implicit association test. (Project Implicit, 2011) A didactic presentation relating health disparities to implicit bias followed. Approaches to culturally-sensitive, individuated, patient-centered communication were reviewed, including Kleinman’s explanatory model. (Kleinman, Eisenberg and Good, 1978) which incorporates questions about the patient’s experience of illness into history taking, and the LEARN mnemonic, which provides a framework for eliciting and responding to patient concerns. (Berlin and Fowkes, 1983) Learners then participated in a video case study (Grainger-Monsen, 2003) and group reflections on personal case experiences. Learners used audience response to allow for anonymous participation. Table 1 outlines specific components of the curriculum and learning objectives.

Figure 1: Conceptual Framework for Cultural Competence Curriculum
This figure was adapted from Burgess et al., 2007.

**Table 1: Workshop Objectives, Training Components, Associated Teaching Methodologies, and Core Concepts**

<table>
<thead>
<tr>
<th>Learning Objective</th>
<th>Training Component</th>
<th>Teaching Methodologies</th>
<th>Core Concept(s)</th>
</tr>
</thead>
</table>
| Describe current model for cultural competence. | Discussion of the implications of changing demographics in the U.S., especially relative to the growth of the biracial and multiracial population | • Didactic presentation  
• Active learner participation | • Diversity  
• Demographic change |
| Explore diversity identity and implicit bias. | Discussion and participant exploration of individual diversity identity (Gardenswartz and Rowe, 2003) and the ways in which self-identity may differ from observable physical characteristics | • Active learner participation  
• Self-reflection  
• Self-awareness building | • Diversity  
• Self-identity |
| Explore diversity identity and implicit bias. | Introduction to the concept of implicit bias and participant self-assessment via the Implicit Association Test (choice of Race, Gender, Arab/Muslim, Weight or Sexuality tests) (Smedley et al., 2003; Project Implicit, 2011) | • Active learner participation  
• Self-reflection  
• Self-awareness building | • Implicit bias |
|---|---|---|---|
| Define health disparities. | Discussion of health disparities, including the presentation of relevant data on specific pediatric outcomes and the role of provider bias on clinical outcomes (Schulman et al., 1999; Green et al., 2007; Chapman, Kaatz and Carnes, 2013) | • Didactic presentation  
• Active learner participation | • Clinical quality  
• Health disparities  
• Provider bias |
| Demonstrate tools for practicing culturally competent care. | Presentation of tools to promote patient-centered care, individuation, perspective taking, and partnership building (Burgess et al., 2007), including:  
• Kleinman's Explanatory Model (Kleinman, Eisenberg and Good, 1978)  
• LEARN mnemonic (Berlin and Fowkes, 1983) | • Didactic presentation  
• Active learner participation  
• Case studies  
• Role play  
• Small group discussion | • Communication strategies  
• Patient-centered care  
• Perspective taking |
| Explore clinical scenarios where culture played a role. | Video module from Worlds Apart Series (Grainger-Monsen, 2003) with discussion | • Video vignettes  
• Active learner participation  
• Small group discussion | • Diversity identity  
• Provider bias  
• Health disparities  
• Patient-centered care  
• Physician-patient collaboration  
• Communication strategies |
| Explore clinical scenarios where culture played a role. | Case discussions from learners' personal experiences | • Active learner participation  
• Small group discussion | • Provider bias  
• Health disparities  
• Patient-centered care  
• Communication strategies |
| Practice skills for providing culturally competent care | Curricular Components outside of workshop:  
1. Communication skills workshop with actors  
2. Professionalism curriculum | • Active learner participation  
• Case studies  
• Role play  
• Small group discussion | • Patient-centered care  
• Communication strategies  
• Self-reflection |

We delivered the curriculum to a convenience sample of pediatric residents (PGY1-3) assigned to participate in the workshop based on rotation assignment. Workshops were offered twice per year from 2011-14, and size varied from 7-20 participants. We pulled participants from elective rotations to participate once during their training. We also delivered the workshop to pediatric subspecialty fellows as part of the department's fellowship core curriculum.
twice during the 3-year pilot.

Participants completed surveys prior to and immediately after the workshop using a validated tool designed to measure resident preparedness and skillfulness in delivering cross-cultural care. (Park et al., 2009) We adapted the tool to include only questions about the behaviors that aligned with workshop content. The pre-workshop survey contained demographic questions about participant training level, gender, race and ethnicity. Both pre-workshop and post-workshop surveys asked about general preparedness to care for patients from different cultures, three specific skills in cross-cultural care delivery, and comfort working with team members from different cultures. The survey used a 4-point response scale, ranging from strongly disagree to strongly agree. Participants used anonymity codes that allowed linkage of pre-and post-workshop surveys. At the conclusion of every workshop, participants completed a written evaluation on the structure of the workshop content as well as the effectiveness of the workshop facilitation.

A study coordinator administered the surveys, de-identified all data, and maintained a secure electronic database (REDCap). Survey responses were analyzed in aggregate to look for changes in each response category between pre- and post-workshop responses using the Cochran-Mantel-Haenszel statistical test. In addition, matched individual trainee surveys were analyzed to look for individual change in response category in a positive direction. The Duke IRB determined that this study (Pro00017349) met criteria for a declaration of exemption for educational settings as described in 45 CFR 46.101(b)(1).

Results/Analysis

Seventy-five trainees participated in the workshop during the study period, and 100% completed the pre-workshop survey; 52 (69% of participants) completed the post-workshop survey. Sixty eight percent of eligible Pediatric residents (54/79) participated in the workshop during the study period. Demographic data are presented in Table 2.

Table 2: Demographic Data from Pre-workshop Survey

<table>
<thead>
<tr>
<th>Training Level</th>
<th>Number of Respondents (n)</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-1</td>
<td>12</td>
<td>16.0%</td>
</tr>
<tr>
<td>PGY 2</td>
<td>26</td>
<td>34.7%</td>
</tr>
<tr>
<td>PGY 3</td>
<td>16</td>
<td>21.3%</td>
</tr>
<tr>
<td>≥PGY-4</td>
<td>21</td>
<td>28.0%</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White non-Hispanic</td>
<td>56</td>
<td>74.7%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>8</td>
<td>10.7%</td>
</tr>
<tr>
<td>Black non-Hispanic</td>
<td>6</td>
<td>8.0%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3</td>
<td>4.0%</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>4.0%</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>42</td>
<td>56.0%</td>
</tr>
<tr>
<td>Male</td>
<td>33</td>
<td>44.0%</td>
</tr>
</tbody>
</table>

Of those participants who completed the post-workshop survey, 94% agreed or strongly agreed that the workshop was useful. At baseline, 92% of learners felt somewhat or well prepared to care for patients from different cultures, and this did not change significantly after the workshop. In aggregate, learners perceived increased skillfulness as indicated by movement to a more positive response category after the workshop in assessing the patient’s
understanding of illness and identifying cultural customs that might affect clinical care. There was improvement in negotiating a realistic treatment plan that did not reach statistical significance (Table 3). For the 52 paired surveys, only the skill of identifying cultural customs changed significantly post-education (67% to 87%, p=0.02). A small but not significant proportion of participants (6-19%) changed to a more negative response.

Table 3: Changes in Response Categories between Pre- and Post-workshop Surveys (in Aggregate)

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Pre n=75</th>
<th>Post n=52</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caring for Patients from Different Cultures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all Prepared/ Skilled</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Somewhat Unprepared/ Unskilled</td>
<td>8%</td>
<td>75%</td>
<td>0.39</td>
</tr>
<tr>
<td>Somewhat Prepared/ Skilled</td>
<td>71%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>Well Prepared/ Skilled</td>
<td>21%</td>
<td>23%</td>
<td></td>
</tr>
<tr>
<td>Identifying Cultural Customs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all Prepared/ Skilled</td>
<td>4%</td>
<td>0%</td>
<td>0.01*</td>
</tr>
<tr>
<td>Somewhat Unprepared/ Unskilled</td>
<td>27%</td>
<td>26%</td>
<td></td>
</tr>
<tr>
<td>Somewhat Prepared/ Skilled</td>
<td>67%</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>Well Prepared/ Skilled</td>
<td>2%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Assessing Patient’s Understanding of Illness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all Prepared/ Skilled</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Somewhat Unprepared/ Unskilled</td>
<td>17%</td>
<td>7%</td>
<td>0.04*</td>
</tr>
<tr>
<td>Somewhat Prepared/ Skilled</td>
<td>73%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>Well Prepared/ Skilled</td>
<td>9%</td>
<td>19%</td>
<td></td>
</tr>
<tr>
<td>Negotiating with the Patient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all Prepared/ Skilled</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Somewhat Unprepared/ Unskilled</td>
<td>23%</td>
<td>9%</td>
<td>0.07</td>
</tr>
<tr>
<td>Somewhat Prepared/ Skilled</td>
<td>72%</td>
<td>71%</td>
<td></td>
</tr>
<tr>
<td>Well Prepared/ Skilled</td>
<td>6%</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Working with Healthcare Team Members</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all Prepared/ Skilled</td>
<td>0%</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Somewhat Unprepared/ Unskilled</td>
<td>12%</td>
<td>9%</td>
<td>0.01*</td>
</tr>
<tr>
<td>Somewhat Prepared/ Skilled</td>
<td>46%</td>
<td>33%</td>
<td></td>
</tr>
<tr>
<td>Well Prepared/ Skilled</td>
<td>47%</td>
<td>57%</td>
<td></td>
</tr>
</tbody>
</table>
Discussion

This study describes our initial experience with the implementation of a case-based cultural competence curriculum for pediatric trainees. The curriculum was well-received by participants and improved their perceived skills in providing culturally competent care to patients. The survey results align with the conceptual framework and learning objectives for the curriculum, which were to increase awareness of implicit bias, promote ongoing self-reflection, and enhance specific skills for the provision of individuated patient-centered care. (Burgess et al., 2007; Chapman, Kaatz and Carnes, 2013) At baseline, our learners self-reported high levels of preparedness in caring for patients from different cultures. While the workshop did not significantly change this, it did improve perceived skillfulness in assessing the patient’s understanding of illness, identifying cultural customs that might affect clinical care, and negotiating a realistic treatment plan. These skills are important to providing individuated care and preventing the deployment of stereotypes, competencies which may lag behind preparedness in other clinical and technical areas. (Weissman et al., 2005)

Our study results suggest that learners may initially overestimate their ability to practice culturally competent care or may not fully appreciate the skills needed to provide this care when self-assessing baseline competence. A similar disconnect between general cultural competence and specific skills was found in a prior study of a large group of trainees using the same survey tool. (Weissman et al., 2005) The limitations of physician self-assessment are well-described elsewhere. (Davis et al., 2006) and we suspect that the learners overestimated their true preparedness. The finding that some respondents changed to a more negative response category on the paired surveys supports this. In addition, implicit bias, by definition, is unconscious. (Chapman, Kaatz and Carnes, 2013) Therefore, learners were unlikely to acknowledge the impact of implicit bias on their ability to practice culturally competent care prior to the workshop. Delivering a “retrospective pre-post” survey asking participants to reflect on true baseline preparedness after completing the workshop would be one way to explore inflation. (Bhanji et al., 2012)

There were several limitations to this study. It occurred at a single site and included only pediatric trainees. Another limitation was the use of self-assessment as a proxy for cultural competence, as self-perception may not be reflective of actual practice. Many of the existing cultural competence assessment tools measure knowledge of specific cultural beliefs, customs or practices, and prior curriculum evaluation studies have focused on improvement in knowledge. (Mihalic et al., 2010) These tools were not relevant to our curriculum. Direct observation of standardized patient encounters or observation of real clinical encounters could provide better assessment of the learners’ ability to integrate the skills taught in the workshop.

We have continued to offer the workshop semi-annually since completion of the study. There are no associated costs other than faculty time. Based on feedback received from workshop evaluations, the curriculum has evolved. We now have all participants complete the Implicit Association Test (Project Implicit, 2011) during workshop time rather than relying on them to do it independently. We have decreased the didactic portion and increased time spent on case discussion. We have also expanded on the practice of patient-centered communication in a separate communication workshop with actors.

We are in the process of collaborating across institutions and training programs to refine and deliver similar case-based cultural competence curricula that increase awareness of implicit bias, promote ongoing self-reflection, and enhance the ability to individuate patient care. As medical educators we need to further discern whether curricula such as ours can mitigate implicit bias and improve the delivery of patient care within our training programs.
Conclusion

A curriculum designed to approach cultural competence from the perspective of implicit bias, health disparities, and patient-centered care was well-received by trainees. Although the workshop alone did not change trainee self-perception of preparedness for cross-cultural clinical care, their perception of skillfulness in areas important to individuated care did improve. Future efforts should promote ongoing self-reflection on and mitigation of bias during subsequent clinical encounters, as well as the assessment of impact on patient important outcomes.

Take Home Messages

- Trainees self-report high levels of preparedness in caring for patients from different cultural backgrounds.
- Learners may overestimate their ability to provide culturally competent care at baseline.
- Training on implicit bias and individuated patient care can increase skills important in the provision of culturally competent care.

Notes On Contributors

Dr. Bartlett is an associate professor and the Division Chief of Hospital Medicine in the Department of Pediatrics at Duke University School of Medicine, Durham, NC. She also serves Associate Program Director for the Duke Pediatric Residency Training Program.

Dr. Strelitz is a medical anthropologist with expertise in health disparities and healthcare related organizational issues. She is President of PS Consulting in Austin, TX, which helps individuals, teams, and organizations identify work culture challenges and diversity divides that impact cohesion and performance.

Mr. Hawley is a senior IT analyst in the Duke Office of Clinical Research, a support office with expertise in study logistics, data management, regulatory oversight, and guidance for clinical research operations for Duke University School of Medicine.

Mr. Sloane, MPH, is a statistician supporting research projects at the Duke Center for the Study of Aging and Human Development.

Dr. Staples is an associate professor of Pediatric Primary Care at Duke University School of Medicine, Durham, NC and the Program Director for Duke Pediatric Residency Training Program.

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The results described in this paper have been presented previously as a poster at the Association of Pediatric Program Directors (APPD) Annual Spring Meeting in 2015. The citation for this presentation is as follows:

Bibliography/References


### Appendices

None.

### Declarations

*The author has declared that there are no conflicts of interest.*

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### Ethics Statement

The Duke IRB determined that this study (Pro00017349) met criteria for a declaration of exemption for educational settings as described in 45 CFR 46.101(b)(1).
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