Project Title: An Educational Intervention Designed to Decrease Implicit Bias in the Practice of Medicine
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I. Specific educational aims: Clinical teaching at Stanford Medical School involves caring for patients from diverse backgrounds, with differences in language, cultural, religion, educational levels, and social class. National attention has been focus on how to train physicians, including medical students, to provide culturally competent care to these patients. The goal of this project is to advance the education of our medical student on cultural competent care by enhancing their understanding their own unconscious biases in caring for patients.

II. Project rationale: The Bay Area is one of the most diverse communities in the country and our students are practicing and learning medicine in that diverse environment. We, thus, have a unique opportunity to train our students how to provide patient-centered care in a diverse and dynamic social context. There has been increased acknowledgement of the role that implicit bias plays both in persistent racial disparities in health-outcomes[1,2], as well as in physician-patient interactions[3]. Although there is some evidence that people can learn to counteract their implicit biases,[4,5] there has been no development, or empirical examination, of interventions specifically designed to address implicit bias for physician trainees. Consistent with broader discussions within medicine and other helping professions[6], we argue that implicit bias training, as well as education about strategies to interrupt these processes, are a necessary part of cultural competency training for physicians. We therefore propose to develop, implement, and assess a clinical training module on implicit bias designed specifically to address patient-physician interactions. There are, to our knowledge, no such modules currently in use. Implicit bias training is considered independent of, but related to, more general cultural competency and diversity training[6]. The implementation and assessment of such a module would not only contribute to the training of our medical students, but also to the growing, but still limited, empirical literature on the effects of implicit bias interventions on physician bias.
We hypothesize that students exposed to this intervention will demonstrate:
1. Increased knowledge of implicit bias and its effects on physician-patient relationships
2. Decreased levels of implicit racial bias
3. Increased motivation to address their own racial biases
4. Increased awareness of and motivation to address other biases
5. More positive attitudes toward patient interactions

Our project addresses the diversity and inclusion needs identified by the SOM, and students' interest in additional cultural competency training. Further, the intention of the project is to create sustained change by developing an intervention that can be easily adapted into the existing curriculum (POM/E4C), and that once its efficacy has been established can reach all of our trainees. Thus, we expect the benefits of this educational intervention to last beyond the grant-funding period.

III. Approach: This educational intervention builds on existing collaborations and resources. We have already developed a relationship with Cedar Interactive, which developed a more general module on implicit bias for use in the medical school. The current module will be

tailored specifically to address patient-physician interactions and real-world clinical scenarios that our medical students may confront. Once the module is developed it will be implemented in the Educators-4-CARE (E4C) Program, Practice of Medicine (POM) course. Thus, it is our expectation that all medical students will be exposed to this intervention during their time at Stanford. Dr. Lars Osterberg is a collaborator on this project and will be key to its implementation. We will work with Dr. Osterberg to work with each of the E4C faculty on the implementation and evaluation of this module for their students. Although our goal is for all students to take the training module, during the first stage of implementation (Winter quarter 2017), we will randomly assign only some of the E4C groups to receive the module. This will allow us to establish that the module does, in fact, affect the outcomes outlined above, under hypotheses.

IV. Timeline and plan for implementation:
- ➢ August 1, 2016 - October 1, 2016: Development of the training module (Cedar Interactive)
- ➢ August, 2016: IRB application for research evaluation submitted (should be approved by September or October, depending on amendments, etc.)
- ➢ October, 2016: Faculty input on module to be solicited and feedback given to Cedar Interactive/changes made as necessary
- ➢ November, 2016: E4C faculty trained in use of module
- ➢ January, 2017: Randomly assigned subset of E4C groups receive module as part of POM course-work. Baseline evaluations completed by ALL E4C POM groups.
- ➢ February-April: Follow-up evaluations will be conducted
- ➢ May-June: Final written report for Medical School drafted and circulated.
- ➢ Summer 2017: Internal SOM report finalized. If appropriate, research papers for publication will be prepared

V. Anticipated work product: The following specific resources will be developed: The implicit bias clinical training module, made available for student training. An evaluation of the module's effectiveness in training medical students around issues of patient care and implicit bias will be produced. Assuming that the module is an effective intervention, at least one published empirical paper will be written. Ultimately, the long-term effects will be increasing the cultural competency of our medical student trainees and improving patient-physician relations. Further, we contribute to a growing area of empirical study, and increased knowledge of what educational interventions are most effective at increasing physician cultural competency.

VI. Evaluation plan: We plan to conduct an evaluation of the intervention. This will include several elements. (1) We will randomize which students are initially exposed to the module, in order to determine that it is effective in the ways in which we expect. (2) Pre- and post- implicit bias assessments will be conducted. With (3) the possibility of examining both immediate and sustained (at several months post-intervention) effects of the module through quality interviews and focus groups.

VII. Dissemination of results: In addition to the internal report to be circulated to the SOM, we plan on publishing our findings in peer-review journals. There is a widespread interest within medical education, and more broadly, in the effects of interventions to address implicit bias.

Appendix

1. Green, A. R., Carney, D. R., Pallin, D. J., Ngo, L. H., Raymond, K. L., Iezzoni, L. I., & Banaji, M. R. (2007). Implicit bias among physicians and its prediction of thrombolysis decisions for black and white patients. *Journal of General Internal Medicine*, *22*(9), 1231-1238.

2. Smedley, B.D., Stith, A.Y., & Nelson, A.R. (2003). *Unequal treatment: confronting racial and ethnic disparities in health care.* Washington, DC: National Academies Press.

3. Cooper, L. A., Roter, D. L., Carson, K. A., Beach, M. C., Sabin, J. A., Greenwald, A. G., & Inui, T. S. (2012). The associations of clinicians' implicit attitudes about race with medical visit communication and patient ratings of interpersonal care. *American Journal of Public Health*, *102*(5), 979-987.

4. Galinsky, A. D., & Moskowitz, G. B. (2000). Perspective-taking: decreasing stereotype expression, stereotype accessibility, and in-group favoritism. *Journal of Personality and Social Psychology*, *78*(4), 708-724.

6. Boysen, G. A., & Vogel, D. L. (2008). The relationship between level of training, implicit bias, and multicultural competency among counselor trainees. *Training and Education in Professional Psychology*, *2*(2), 103-110.