

**Sapp—Project Title:** Disability Health in Medical Education: Development, implementation, and evaluation of a novel curriculum at Stanford University School of Medicine

**PI Name:** Richie Sapp MS, BS, Medical Student **Academic Advisors:** Dr. Heidi Feldman, MD, PhD, Division Chief, Division of Developmental-Behavioral Pediatrics at LPCH; Dr. James Lau, MD, MHPE, FACS, Director, Stanford Surgical Education Fellowship

**I. Specific Educational Aims (Aim 1)** Design, teach, and facilitate a weekly seminar course that introduces students to a variety of topics and issues surrounding individuals with disabilities in medicine **(Aim 2)** Create narrative-based animated/live videos highlighting experiences of patients with disabilities that can be used in the seminar and disseminated to the greater community **(Aim 3)** Measure the impact of the seminar on medical students' perspectives (attitudes, knowledge and skills) regarding individuals with disabilities and the issues surrounding their healthcare through quantitative and qualitative data collection and analysis **(Aim 4)** Disseminate findings and engage the Stanford medical community in discussions on the importance of disability issues in healthcare such as patient care, ethics, diversity, and inequity.

**II. Project Rationale** Approximately 57 million individuals in the United States (20% of population) have a disability, with that number likely to increase with the aging of the US population<sup>1</sup>. Medical professionals are often inadequately prepared to diagnose and treat patients with disabilities due to an absence of training in this area throughout the course of their medical education<sup>2</sup>. The Association of American Medical Colleges (AAMC) has called for more inclusion of disability training in medical schools, and as a result, some US medical schools have begun to incorporate disability training into mandated cultural competence education. However, most current curriculum operates on the outdated “medical model of disability,” which views disabilities as an impairment or deficit to be cured, eliminated or rehabilitated. Often times, physicians display bias regarding disabilities, making assumptions on the quality of life as “poor,” leading to less aggressive treatment of an acute problem<sup>3</sup>.

Here, I propose a new educational seminar that will expose medical students to a wide variety of issues that individuals with disabilities face in the healthcare setting. The seminar aims to promote a “social model of disability,” provide knowledge about disabilities and experiences of patients, and give students the skills to provide better care to patients with disabilities throughout their careers. Currently, the only exposure to disability health that Stanford Medical and PA students have is a 2-hour introductory session during their first year Practice of Medicine course. This course will allow a much more in-depth exposure to important topics surrounding disability in healthcare. The seminar will be based on lectures from healthcare professionals who have expertise in disability health as well as individuals in the disability community who will share their personal experiences. Animated/live videos will be created to highlight the stories of individuals with disabilities in their experiences as patients. Including individuals with disabilities in the teaching of medical students is essential to our program. Evidence shows that certain educational interventions such as early and frequent encounters with people with disabilities improve medical students' knowledge, attitudes, and skills necessary for caring for these people<sup>4-7</sup>. The curriculum and videos can then be shared with other medical schools to advance and improve disability health education nationally.

**III. Approach** This seminar will include lectures from Stanford faculty and individuals with disabilities/family members, novel animated/live video modules, and weekly reflections. We will assess the impact of this new seminar on medical and PA students' attitudes towards patients with disabilities and knowledge of the complex issues in disability healthcare.

**Aim 1:** For the 2018-2019 year, I have received MedScholars funding for my personal stipend to create a course on Disability Medicine, in collaboration with Dr. Feldman and Dr. Lau. The seminar will consist of 10 sessions featuring lectures/panels/reflections on the following topics: definition of disability, language and disability, medical model vs. social model of disability, disability and ethics, informed consent/assent, and integrating complex care. Additionally, I will be collaborating with Dr. Maya Adam, the EdTech group and VPTL to create engaging 3-5 minute animated/live videos (paired with an assessment tool) for the class that can serve as standalone modules to be disseminated beyond the Stanford community. These videos will highlight the experience of patients with disabilities.

#### **IV. Timeline and Plan for Implementation**

| Summer/Fall Quarter 2018  |   |   |   |
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| Aim 1: Develop course content, develop online videos, confirm speakers                | Aim 2: Develop student reflection content           | Aim 3: Develop and validate metrics, complete Stanford IRB                        | Aim 4: Complete Background and methods for each manuscript    |
| Winter Quarter 2019   |   |   |   |
| Aim 1: Implement course with video modules  | Aim 2: Collect student reflections                  | Aim 3: Complete pre-survey and focus groups                                       | Aim 4: Submit abstract(s) to conferences                      |
| Spring Quarter 2019   |   |   |   |
| Aim 1: Recruit course leaders for 2019-2020. Evaluate course content for improvement. | Aim 2: Complete qualitative analysis of reflections | Aim 3: Complete qualitative and quantitative analysis of surveys and focus groups | Aim 4: Complete manuscript(s) and submit them for publication |

**Aim 2:** Throughout the course, students will be required to reflect on the course lectures and discussions, specifically with regards to their attitudes towards individuals with disabilities and the issues that they face in healthcare. Reflections will help students connect with their own experiences and foster community among students. These reflections will undergo iterative qualitative analysis.

#### **V. Anticipated Work Product**

1. A sustainable annual quarter-long seminar course on a wide variety of topics on issues regarding disability in healthcare. The design of the curriculum and its course materials will be published online on a peer-reviewed platform, MedEdPORTAL.
2. Animated/live 3-5 minute videos that will be modules for the course and disseminated to the greater learning community through open-source platforms like Coursera and peer-reviewed on MedEdPORTAL.
3. Multiple manuscripts including: (1) Needs based assessment at Stanford School of Medicine with online surveys and focus groups of students, faculty, and community members with disabilities (2) Mixed methods analysis of the seminar course assessing student knowledge scores and attitudinal differences, including in-class sessions and stand-alone videos, and program evaluation of the effectiveness of the course and (3) Qualitative analysis of student homework reflections during the course.

**VI. Evaluation Plan (Aim 3)** I plan to evaluate the impact of the seminar and the videos through a mixed methods analysis using validated instruments such as knowledge tests and attitudinal self-assessments. This is a quasi-experimental study, where students will voluntarily sign up for course (intervention group), and be compared in knowledge/assessment to non-participants (comparison group). All students will complete pre-post online surveys that will collect data on demographics, knowledge, and self-assessment. Knowledge tests will examine specific domains of disabilities studies, such as laws, proper language and word usage, effective communication with persons with disabilities, and therapy/educational resources for individuals and families. Attitudinal self-assessments will include: implicit biases, comfort and confidence levels working with people with disabilities, and better understanding of the lives of patients with disabilities. Survey data will be triangulated with in-depth focus groups about student perceptions before and after the course. Survey results will be analyzed with a student's *t*-test of participants' scores pre- and post-curriculum (or other nonparametric test) and chi-square test. Focus group data will be transcribed and thematically analyzed. Additionally, across both groups, there will be an additional delayed post-test 6 months after the class to evaluate whether the course had any affect on behaviors and attitudes towards patients with disabilities that students might encounter during clerkships, as well as long-term knowledge-retention about disability topics. In-depth evaluation of the videos created will be done concurrently with students in the class.

**VII. Dissemination of Results (Aim 4)** Initially, I will present the results at a conference such as AAMC, WGEA and/or American Academy of Developmental Medicine and Dentistry (AADMD). The design of the course and the course materials will be peer reviewed and published to the open-source MedEdPORTAL for other educators to use at their institutions. The video modules will be published to open-source MedEdPORTAL, Coursera, and YouTube. The analysis and results of outcomes of this project will be published in up to three publications for greater dissemination to the academic community.

## References:

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