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Jones, Anne C; Bertsch, Kristin N; Williams, Deborah; and Channell, Millicent King, "The Tensegrity Curriculum: A Comprehensive Curricular Structure Supporting Cultural Humility in Undergraduate Medical Education." (2024). *Rowan-Virtua School of Osteopathic Medicine Faculty Scholarship*. 212.
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PERSPECTIVES

The Tensegrity Curriculum: A Comprehensive Curricular Structure Supporting Cultural Humility in Undergraduate Medical Education

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Video abstract

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Abstract: Due to growing health disparities in underserved communities, a comprehensive approach is needed to train physicians to work effectively with patients who have cultures and belief systems different from their own. To address these complex healthcare inequities, Rowan-Virtua SOM implemented a new curriculum, The Tensegrity Curriculum, designed to expand beyond just teaching skills of cultural competence to include trainees' exploration of cultural humility. The hypothesis is that this component of the curriculum will mitigate health inequity by training physicians to recognize and interrupt the bias within themselves and within systems. Early outcomes of this curricular renewal process reveal increased student satisfaction as measured by course evaluations. Ongoing course assessments examine deeper understanding of the concepts of implicit bias, social determinants of health, systemic discrimination and oppression as measured by performance on graded course content, and greater commitment to continual self-evaluation and critique throughout their careers as measured by course feedback. Structured research is needed to understand the relationship between this longitudinal and integrated curricular design, and retainment or enhancement of empathy during medical training, along with its impact on health disparities and community-based outcomes.

Keywords: health equity, cultural competency, bias, implicit, social determinants of health, Osteopathic medicine, diversity, equity, inclusion

Introduction

Crafting medical school curricula that produce patient-centered, self-aware, and culturally humble and responsive physician leaders is a challenge fraught with tension. This urgency for change is fueled by the copious research that demonstrates disparities in access and outcomes for patients from systemic oppression, exposing inherent power and privilege in exam rooms and healthcare systems alike. For instance, a recent study revealed that from 1999 to 2020, 1.63 million Black Americans lost their lives in excess compared to white Americans, with COVID expanding that gap in 2020.[1] Health inequities within healthcare systems are complex. It is imperative that medical schools train students to take ownership in closing the gap in health disparities because not doing so has grave consequences for marginalized communities. Adapting a medical school curriculum requires motivation of administrative leaders and faculty to shift to new models, develop new pedagogies and content, and dedicate to a shared vision to change.

Within any complex system, inherent tension can provide stability and adaptability. Originally, an architectural term, *tensegrity* is an amalgamation of the words *tension* and *integrity*, used to describe a system of compressed components within a network of chords.[2] The field of chemistry and biology also uses this concept to refer to the interwoven cellular structure of organisms. In 2013, the osteopathic medical community adopted this concept to enhance the illustration of total-body unity, from the intricacies of spinal mechanics to the shared principles of whole-person care and health.[2] In 2019, Rowan-Virtua School of Osteopathic Medicine (Rowan-Virtua SOM) applied the concept of tensegrity to inspire

Received: 4 October 2023
Accepted: 27 March 2024
Published: 3 May 2024

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change among faculty and leadership. The concept illustrated how to provide a tangible balance needed across all disciplines and competencies to train holistic physicians. As part of the mission to train culturally competent physicians, the goal was to train students to identify and interrupt implicit bias as well as understand systemic inequities that contribute to health disparities.

Leading evidence from the early 2000s heralded cultural competence as a leading success factor in physician education.[3–5] In its landmark call to action in 2005, the Association of American Medical Colleges (AAMC) defined cultural competence in health care "as a set of congruent behaviors, knowledge, attitudes and policies that combine the tenets of patient/family-centered care with an understanding of the social and cultural influences that affect the quality of medical services and treatment."[6] As a result, accreditation agencies – the American Association of Colleges of Osteopathic Medicine (AACOM) and AAMC – introduced standards for cultural competence and the awareness of its importance grew, albeit slowly, among clinicians in practice, trainees, and educators.[6,7] Over the next decade, medical education curricula taught necessary skills for physicians when interacting with people of diverse cultures and differing belief systems, including preparation for recognizing and addressing cultural biases presenting during individual patient care.[6]

While attention to cultural competence was an important first step, it has been recognized that a more comprehensive approach is needed to create truly humanistic physicians. Doctors need to have the skills to work effectively with patients with different lived experiences, and also need to be able to identify and dismantle systems of oppression to impact the health of communities.[8] To produce these outcomes, it is insufficient to only teach students specific clinical tools they must add to their skillset, one that is already strongly influenced and developed at the beginning of medical education by individual implicit bias. Instead, it is crucial to invite students to develop self-awareness, to recognize and normalize the unconscious biases that are inherent in everyone. We must also inspire healthcare trainees and professionals to dedicate time and energy to challenge personal unconscious biases due to the deleterious effects they have on the most marginalized patients.

> The process of commitment to ongoing self-critique, termed cultural humility, encourages the healthcare community to "redress the power imbalances in the physician-patient dynamic, and to develop mutually beneficial and non-paternalistic partnerships with communities".[8,9]

Equally important to acknowledge is that naming truths about racism, sexism, heterosexism (among other 'isms) and intersectionalities of oppression that contribute to healthcare disparities requires faculty to embody self-awareness, cultural humility, and responsiveness themselves. Faculty also need to model having these difficult conversations which requires creating a learning environment that balances emotional safety and honest truth-telling.[10] Due to the power imbalance between students and faculty, students can feel uncomfortable and fearful of saying something wrong. To co-create a psychologically safe space between faculty and students, faculty need to verbalize that it is a safe space and show it with action (eg, modeling and being clear about expectations for students show up with kindness, empathy, self-compassion for self and others, and intellectual curiosity).[10] In addition to faculty commitment, institutional support is vital for the success of any curricula renewal that centers cultural humility and responsiveness in all competency domains so that it is executed successfully and sustainable.

Building this curriculum cannot be done by simply adding one lecture, changing one course, or implementing a new set of educational standards in isolation of the faculty who deliver the content. For an innovative curriculum to generate self-awareness, knowledge and skills in addition to the commitment it takes for the learner, a frameshift is required in the way the entire curriculum is conceptualized, organized and delivered. It requires a shared understanding of systemic oppression and the direct links to disparities in healthcare, a personal commitment to model and teach ongoing self-critique and learning, a cohesive and actualized mission, and recognition that the healthcare landscape is ever-changing and that medical schools must prepare trainees to adapt and function within it. Rowan-Virtua SOM is one of the largest medical schools in New Jersey, a public osteopathic medical school which consistently produces graduates who enter primary care specialties and practice in underserved communities. This call to higher action was heard and answered with vigor and dedication by the institution with support for the Tensegrity Curriculum and its short- and long-term objectives (Figure 1).

Rowan-Virtua School of Osteopathic Medicine	
Vision	*Mission*
Will improve access, affordability and quality of both education and healthcare for our community and the nation.	Prepares future physicians and scientists who are committed to improving health in New Jersey and throughout the nation.

Institutional Goals

To advance our mission we:

- Develop clinically skillful, compassionate and culturally competent physicians from diverse backgrounds who are grounded in our osteopathic philosophy and ready to meet future healthcare workforce needs.
- Advance research, innovation and discovery to improve health and solve the medical challenges of today and the future.
- Provide exceptional patient-centered care, with an emphasis on primary and interprofessional team-based care that responds to the needs of the community including underserved and special needs populations.

Tensegrity Curriculum

An integrated competency-based curriculum committed to providing excellence in medical education with an underlying emphasis on primary health care and community health services. This curriculum is based on the Competencies of the American Osteopathic Association, and organized in six domains, with Osteopathic Philosophy and Practices (OPP) and Osteopathic Manipulative Medicine (OMM) integrated into each domain:

1. Medical Knowledge
2. Osteopathic Patient Care
3. Interpersonal and Communication Skills
4. Professionalism
5. Practice Based Learning and Improvement
6. Systems Based Practice

It applies the principles of adult learning including independent self- directed learning and respect for the individual learner. It seeks to redistribute the emphasis across all competency domains to train holistic physicians.

Objectives related to Cultural Competency and Humility	
Long-term Objective	*Short-term Objective*
To mitigate health inequities in underserved communities by inspiring greater acceptance of the role of the physician to commit to continual self-evaluation and critique throughout one's career.	To redistribute all competency domains giving additional attention within each to the integration and application of humanism, cultural humility, patient-centeredness, self-awareness, cultural and social responsiveness.

Figure 1 Rowan-Virtua School of Osteopathic Medicine Vision, Mission, and Goals of the Tensegrity Curriculum.

Method

To address these complex healthcare inequities in the United States, and to strengthen its educational profile, Rowan-Virtua SOM implemented the Tensegrity Curriculum in July 2019. The process of renewing the curriculum took three years involved multiple faculty, administrators, committees, and students coming together to research best practices across allopathic and osteopathic United States medical schools for the global aim of training physicians to function adaptively in a dynamic and changing modern healthcare environment. The main objective of this renewal process was to redistribute emphasis of all competency domains, giving additional attention to the integration and application of humanism, cultural humility, patient-centeredness, self-awareness, cultural and social responsiveness. The long-term goal is that health inequities will be mitigated by training physicians to be attentive to their own implicit bias and learning skills to dismantle systems of oppression that contribute to health disparities.

The Tensegrity Curriculum was designed with a multi-disciplinary committee which conducted a systematic review of current United States curricula. The committee at Rowan-Virtua SOM, working from a shared commitment to the school's mission and vision,[11] examined each course and block within the curriculum and proposed a redesign.

Results

The Tensegrity Curriculum has several key components devoted to training students in understanding the social determinants of health, enhancing emotional intelligence, identifying and interrupting implicit bias, and advocating for colleagues, patients, and communities (Table 1).

Pre-Clerkship & Clerkship Format

Rowan-Virtua SOM has two tracks for pre-clerkship curriculum: Synergistic-Guided Learning (SGL) and Problem-Based Learning (PBL). The two tracks share common courses and intersessions with separate system blocks and clinical skills courses.

Table 1 Key Curricular Components Integrated Through the Tensegrity Curriculum Which Train Students in Humanism, Cultural Humility, Patient-Centeredness, Self-Awareness, Cultural and Social Responsiveness. Goals and Objectives are Adapted from Syllabi and Course Manuals for Each Curricular Component

Curricular Component	Goals & Objectives	Length of Time
1. Community Service Learning & Leadership	Reflect, evaluate and define professional self by identifying and breaking down biases, visualize self in relation to groups, experience real-time work in communities	3-year longitudinal
	Recruit, train and retain a health professions workforce committed to underserved populations	
	Gain first-hand knowledge of how the health of communities is affected by health risk factors (eg low income, residential segregation, systemic discrimination, stress, and poor access)	
2. Synergistic Guided Learning System Blocks		
Health Equity Modules	Describe the current state of health disparities for the purpose of generating discussion and understanding along the lines of social determinants to improve health equity.	Integrated throughout system blocks
	Highlight that changes in diet and environment can extensively reduce health inequities in marginalized communities using peer-reviewed articles, case scenarios, PowerPoint presentations, videos and online assessment exercises.	
	Identify key topics within each clinical discipline that outlines the specific effects of health disparities on communities to change perception and create advocacy for change.	
Case-Based Learning	Evaluate differential diagnoses and hone clinical reasoning by working through clinical cases which include psychosocial component	
3. Intersessions		
Human Sexuality	A comprehensive and concentrated opportunity to become knowledgeable and comfortable in dealing with sexuality. The goals of this intensive week is to address misinformation, controversy, and prejudice - including student biases. Students should end the week able to promote increased knowledge, comfort, empathy, and respect for their future patients.	1 week in Year 2
Health System Sciences	Provides the fundamental understanding of how health care is delivered at both the individual and system level. The emphasis is on understanding the role of human factors, systems engineering, leadership, and patient improvement strategies; it is the economics of medicine.	1 week in Year 1 1 week in Year 2
4. Areas of Distinction		
Cultural Competency Humanism	Creates opportunities for focused areas of curricular interest in one of twelve (12) areas, with requirements in didactics, community service and scholarly work, in addition to advising and recognition on the MSPE.	Optional longitudinal elective

The SGL track is largely lecture based, with a system-based format combining basic and clinical sciences in a one-pass system. The PBL track consists of small groups of students working with a facilitator to learn curricular content by working through medical cases, with a focus on basic science in first year and clinical sciences in second year, using a two-pass system, in which content is reviewed twice during the pre-clerkship years.[12] Students begin core clerkships at the end of second year when SGL and PBL tracks merge.

Community Service Learning and Leadership (CSLL)

CSLL is a three-year longitudinal curricular thread based on the foundation of a 40-year collaboration with the New Jersey Area Health Education Centers (AHEC).[13] CSLL moves students from evaluation and reflection of the student's personal and professional self (CSLL I), to understanding groups, team dynamics, and health systems (CSLL II), culminating in a two-week core clerkship in Year 3 (CSLL III), in which students identify needs of an assigned underserved area and provide recommendations for meeting community needs (Figure 2).

The primary focus of CSLL I is to assist students in increasing self-awareness. To close the gap in health disparities, it is critical for students to reflect on their own implicit biases and have strategies to address them.[14] Emotional intelligence and implicit bias are covered in lecture and small group format with guided discussion by a trained facilitator. A panel discussion presents shared experiences of being recipients and perpetrators of implicit bias in healthcare with success strategies for navigating them. Later in the year, students take the Implicit Association Test (IAT) and critically analyze the process of taking the test in small groups.[14] CSLL I hosts an interprofessional education event, where students work with multiple health professionals on cases in small groups. Assessments in CSLL I include quizzes, reflective writing exercises, participation in small group activities, and a case presentation applying the concepts learned throughout the year.

CSLL II uses Standardized Patient (SP) encounters for students to gauge their comfort and confidence in having difficult conversations in simulated situations. Students then choose an underserved population in which to volunteer, provide service, and research. Quality improvement (QI) methodologies are taught using lecture, and students prepare group presentations on their population, its social determinants of health, a QI system analysis, and recommendations for improvement. Students then complete a critical analysis reflecting on the experience and how it relates to their future as a physician.

CSLL III concludes the longitudinal curriculum, in a 2-week required clerkship located in urban and rural communities with a wide distribution of health inequities in New Jersey. Students are assigned to a community-based organization within one of Rowan-Virtua SOM's clinical hub sites or within a one of three local AHEC Centers (ie, River, Garden, or Shore AHEC) to facilitate placement in various community-based agencies in the counties served by the NJ AHEC program. Students may be placed at any of AHEC's collaborating service-learning site/host organizations

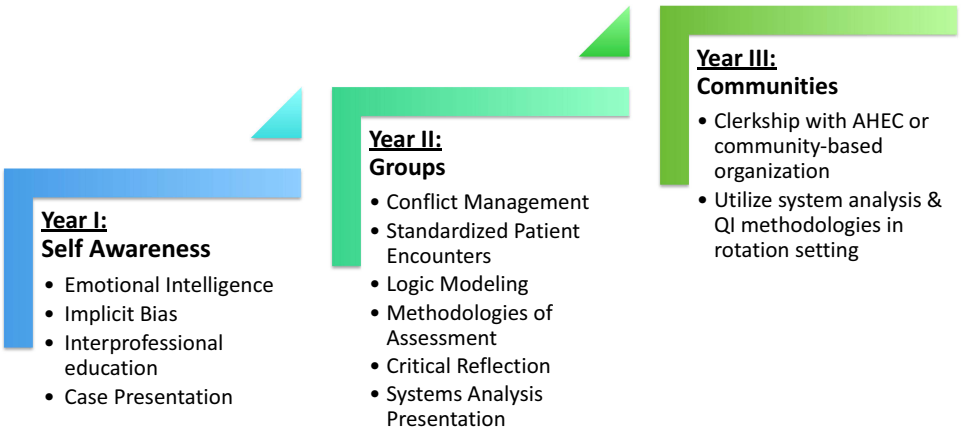

Figure 2 The curricular arc of the Community Service Learning and Leadership curriculum at Rowan-Virtua SOM. Year I focuses on self-awareness and reflection. Year II includes logic models, methodologies, and standardized patient encounters. Year III culminates in a 2-week rotation in a medically underserved community.
Abbreviations: AHEC, Area Health Education Center; QI, quality improvement.

(ie, Healthcare for Homeless Shelters, wound care programs, Federally Qualified Health Centers (FQHC), or mobile food pantries). Within a hub site, students may be placed at a hospital system's free or charity care clinic, a community-based primary care practice, or at a public health department. The crux of service-learning experience is the reciprocal nature of the relationship between students and the community. CSLL benefits students by providing learning experiences, while the host site benefits from students who bring healthcare innovation and new ideas to the community. It is Rowan-Virtua SOM and AHEC's shared goal that students will witness and contribute to extra-medical disciplines and how the wider community impacts overall health and healthcare. Students also dig deeper into their own perceptions, attitudes, and values through reflective activities, like journaling and narrative medicine, and present to their site preceptor at the conclusion of the rotation. The host site providers serve as community preceptors for students and provide official components of the student's grade.

The longitudinal nature of CSLL allows faculty to assist trainees with the hard work of breaking down biases as a method of cultivating cultural humility *before* placement into underserved communities. There are several important considerations for this curricular design. First, it allows students to develop emotional intelligence, understand and challenge implicit biases to decrease the likelihood of perpetrating microaggressions onto colleagues and patients. Second, it specifically invites students to question stereotypes, learn about systems of oppression, and develop skills to manage difficult conversations within the safety of the pre-clerkship curriculum. Learning first in low-stakes environments (eg, small groups, Simulation Center activities), prepares students to interact with community partners doing real-time service work in their third year. This progression mirrors the sequencing of clinical activities and procedures within clinical medicine courses.

System Blocks: Health Equity Modules & Case-Based Learning

Pre-clerkship System Blocks cover foundational basic and clinical sciences, and two components within them address social determinants of health, healthcare disparities and cultural inclusiveness: (1) Health Equity Modules and (2) Case-Based Learning (CBL), which, within the Tensegrity Curriculum, includes required psychosocial components.

Health equity is defined as "an approach to health that strives to give everyone the best chance at the healthiest possible life".[15] Health inequity is defined as the difference in health outcomes irrespective of individual choices or behaviors.[15,16] Whether it is social, environmental, or economic pressures lead to differences in health outcomes. Health disparities can occur as part of an inequity, but they may occur as a result of the choices we make as well.[16] Health disparities and inequities require a deep understanding of social determinants of health. The awareness that these disparities disproportionately affect communities of color, and implementing skills to aggressively challenge the status quo to stabilize health inequities, will increase health outcomes in these affected communities. Within each System Block for both pre-clerkship tracks, students are assigned materials on health equity topics that relate to the content of that block (Table 2).

CBL sessions are part of the SGL track and are held in small groups facilitated by physicians. Students work through clinical cases, evaluating differential diagnoses to hone clinical reasoning skills. In the Tensegrity Curriculum, cases explicitly address healthcare disparities, implicit bias and patient advocacy. Faculty who compose cases are assigned one psycho-social component and are expected to include discussion questions aligned with case objectives (Figure 3).

Table 2 System Block Health Equity Modules and Assignments, with a Synopsis of Each Required Element, Adapted from Syllabi and Course Content

System Block	Assignment	Synopsis
Brain & Behavior	2"CRIP CAMP: A DISABILITY REVOLUTION" Video (1 hr 46 min)	The experiences of teenagers with disabilities as they journey to adulthood and activism. The film provides a deeper understanding of how the American Disability Acts became an institutional fabric.
Brain & Behavior	"Drugging our Kids" Video (45 min)	The film exposes the alarming use of psychiatric medications within communities in California and its impact on thousands of vulnerable foster kids who suffer the consequences. It gives voice to many of these young people, who say they were silenced during their youth by the powerful drugs.

(*Continued*)

Table 2 (Continued).

System Block	Assignment	Synopsis
Cardiology	"Unnatural causes: Is inequality making us sick?" (54 minutes)	The documentary argues that health and longevity are correlated with socioeconomic status; people of color face an additional health burden; and our health and well-being are tied to policies that promote economic and social justice. Each segment is set in different racial/ethnic communities, providing a deeper exploration of the ways in which social conditions affect population health and how some communities are extending their lives by improving them.
Hematology, Pulmonology, and Nephrology	"Panorama - Contaminated Blood: The Search for the Truth" Video (58 min)	In the 1970s and 1980s 4689 people with hemophilia and other bleeding disorders were infected with HIV and hepatitis viruses through the use of contaminated clotting factors. It has been called the worst treatment disaster in the history of the NHS(National Health service). All the victims were infected over 25 years ago, but even now new cases are still being diagnosed.
	"CRISIS: Experiences of People with Sickle Cell Disease Seeking Health Care for Pain Video (8 min)	This eight minute video was developed by researchers and clinicians at The Johns Hopkins University. It explores the experience of seeking acute treatment for sickle cell pain from the perspectives of adults living with the disease, as well as that of an expert hematologist.
	"Perceived Discrimination in Health Care is Associated with a Greater Burden of Pain in Sickle Cell Disease" Article	The article describes the perceived discriminatory experiences in society particular by health care providers as they care for sickle cell patients. Understanding whether discrimination was disease-based or race-based and their association with patient characteristics ie race, gender, age- and quality of pain.
Hematology, Pulmonology, and Nephrology	"Collateral Damage" Video (26 min)	The lives and health of Marshall Islanders in the equatorial Pacific were disrupted when the United States occupied their nation and used their outer islands for extensive nuclear testing after World War II. After a miscalculation a nuclear fallout caused the Marshall island people to be relocated off their native lands. Lack of economic opportunities and healthy food options, combined with the stress of dislocation and cultural loss, have led to high rates of chronic illnesses like diabetes, tuberculosis, heart disease, hypertension, obesity and cancer.
Hematology, Pulmonology, and Nephrology	"Kidney failure: The disease that kills the poor and spares the rich" Video (13 min)	The survival of a person battling kidney disease in Ghana is dependent on the financial capacity of the individual. This is because the cost of treatment for both an acute or chronic kidney failure disease is very expensive for the average Ghanaian.
	"Study Finds Wealthy More Likely to Get Transplants" Video (3 min)	The documentary describes a retired New Yorker who is at the bottom of the transplant list and flies to California and places himself on multiple lists despite being less sick than other patients. There are more than 122,000 Americans waiting for organs. Multiple lists cut an average wait of four years by 10%.
	"Living with Kidney Failure" Video (46 min)	The documentary describes the lived experience of seven individuals of different ages, disease histories and cultural backgrounds. The stories of their dialysis-dependency highlights some of the quality-of-life issues faced by people living with chronic kidney failure. While their experiences are in some ways specific to their disease and treatment, the issues of family strain, unemployment, uncertainty, vulnerability and mortality highlight the challenges faced by this population.

(*Continued*)

Table 2 (Continued).

System Block	Assignment	Synopsis
Endocrinology & Reproduction	"Bad Sugar" Video	The film displays the intimate connections between diabetes, oppression, and empowerment in two Native American communities.
	"The Great Invasion - Documentary on endocrine disruptors" Video (52 min)	The film discusses how plastics, and detergents concealed in our food, in toys, in shampoo invade our bodies. Petrochemicals, with unfamiliar names ie phthalates, brominated flame retardants, parabens, bisphenol-A, all disrupt our hormonal physiology. These agents are known as endocrine disruptors and have a positive correlation with breast cancer, obesity and other diseases.
	"Disparities in Environmental Exposures to Endocrine- Disrupting Chemicals and Diabetes Risk in Vulnerable Populations" Article	Burgeoning epidemiological, animal, and cellular data link environmental endocrine-disrupting chemicals (EDCs) to metabolic dysfunction. The article reviews the evidence linking unequal exposures to EDCs with racial, ethnic, and socioeconomic diabetes and disparities in the U.S
Endocrinology & Reproduction	"Born to Be" Video (1 hr 32 min)	"Born to Be" follows the work of Dr. Jess Ting (he/him) at the groundbreaking Mount Sinai Center for Transgender Medicine and Surgery. There, for the first time ever in New York City, transgender and gender non-conforming people have access to quality transition-related care.
	"Neurobiology of gender identity and sexual orientation" Article	The present review discusses the relationship of sexual identity and sexual orientation to prenatal factors that act to shape the development of the brain and the expression of sexual behaviors in animals and humans.
Gastroenterology & Nutrition	"In Defense of Food: An Eater's Manifesto Video (1hr 55 min)	The documentary considers what science does and does not know about diet and health, proposing a new way of thinking about food that is informed by ecology and tradition.
Gastroenterology & Nutrition	"Bridging the Great Health Divide Documentary" Video (53 min)	The national investigative team explores shortcomings and gaps in access to healthcare and looks at what has happened in towns where the local hospital recently closed.
	"Food Availability Convenience and Obesity 1–5"Article	Neighborhood environments have received considerable attention in recent local, state, and national obesity prevention initiatives, with a particular focus on food deserts, or areas with poor access to healthy foods.
Life Span: Pediatrics Section	"The Raising of America" Video (58 min)	"The Raising of America" interweaves discoveries from neuroscience with the stories of families and communities struggling to provide the nurturing environment of pre-K care to all babies and young children nation-wide.
	"Wounded Places: Confronting Childhood PTSD In America's Shell-Shocked Cities" Video (42 min)	Combat vets and survivors of wars and natural disasters are not the only people susceptible to PTSD. Too many of our children, especially children of color living in neighborhoods of concentrated poverty, show the effects of unrelenting structural racism, street violence, domestic instability and other adversities every day. The impact of their environment leads to symptoms that look a lot like individuals post-traumatic stress disorder.
	"DNA Is Not Destiny: How The Outside Gets Under The Skin" Video (36 min)	The documentary details how modifications of their epigenomes have in turn been associated with a host of effects: such as… anxiety, depression, poor learning, obesity, substance abuse and even cancers. They can change the course of a child's life.

Intersessions: Human Sexuality & Health System Sciences

Intersessions are week-long courses focused on crucial concepts impacting patient care. Human Sexuality and Health Systems Sciences are two of the intersessions in the Tensegrity Curriculum which include specific content on cultural awareness and humility.

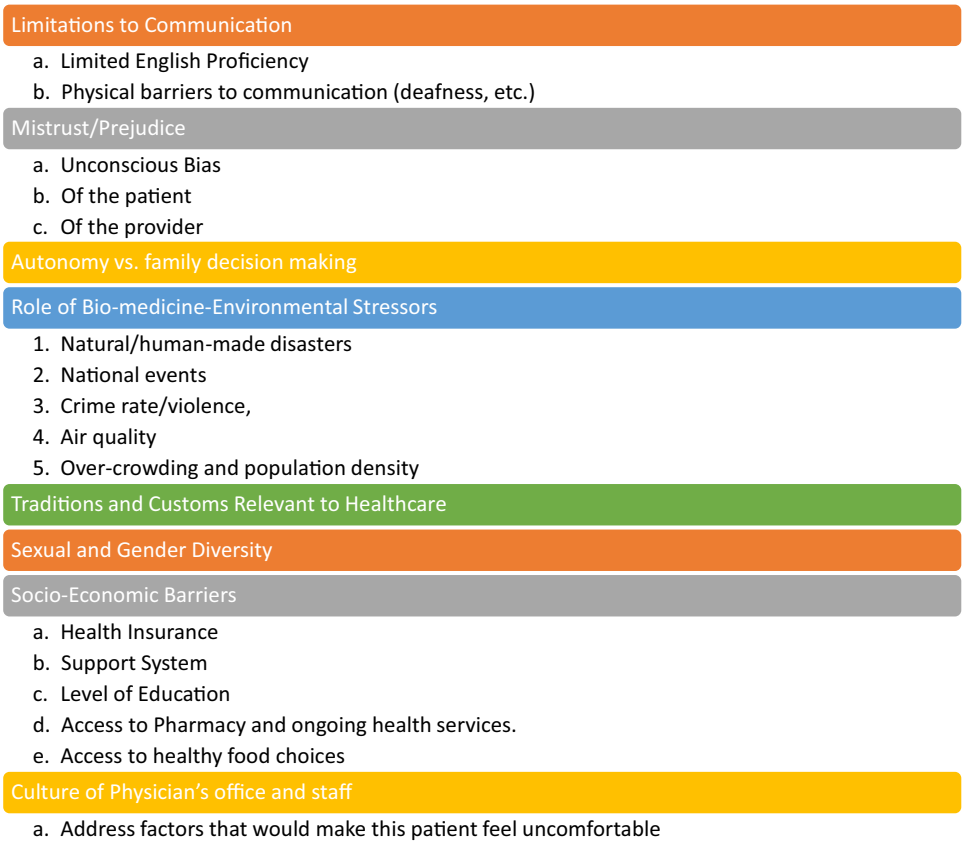

Figure 3 Psycho-social and system-level components included in Case-Based Learning which emphasize humanism, cultural humility, patient-centeredness, self-awareness, cultural and social responsiveness.

Human Sexuality occurs in Year I, providing concentrated attention to sensitive aspects of human sexuality and sexual health. The content expands on sessions from the Endocrinology and Reproduction Blocks, and builds on lessons from CSLL, addressing misinformation, controversy, and prejudice, encouraging students to identify and interrupt personal biases related to gender identity and sexual orientation.

Health System Sciences (HSS) I and II are each week-long intersessions occurring during Years I and II, respectively. Crafted using the American Medical Association's Education Consortium foundational text, the first week of this content provides fundamental understanding of healthcare delivery systems, value-based health care, patient safety, and QI.[17] This intersession sets the stage for CSLL Year II, which then delves again into QI methodologies, and CSLL Year III, and requires student groups to utilize QI methodologies while on the CSLL clerkship. The second week covers action-oriented steps to healthcare transformation, leadership, health information technology, and continual QI. By this time in the curriculum, students are primed to begin third-year clerkships; with the concepts of emotional intelligence, implicit bias, cultural humility, health equity, and social awareness now weaved into the curriculum, the expectation is that they can begin to integrate these concepts as they step up to real-time clinical care.

Areas of Distinction: Cultural Competency & Humanism

Areas of Distinction (AoD) are elective curricular components that are recognized and included in Medical Student Performance Evaluation (MSPE) letters for residency applications, with requirements for didactic education, community service, and scholarly work. Rowan-Virtua SOM has twelve AoDs, two of which are Cultural Competency, and Humanism (see Table 3). These elective opportunities provide focused attention, advising and development into the intricacies of cultural competence and humility, and encourage an even deeper dive into interrupting implicit bias within the learner, and proposing system-level changes that result in new and generalizable knowledge in these areas.

Table 3 Requirements for Areas of Distinction in Cultural Competency and Humanism at Rowan-Virtua SOM

Area of Distinction in Cultural Competency

LECTURES
Attend 6 lectures or activities over three years that exemplify the AoD and one didactic training. Must be approved by the AoD advisor.
• Attend at least two events/activities pertaining to diversity, inclusion, health equity, or cultural competency per year.
  ○ Community Grand Rounds
  ○ Diversity Week Lectures/Workshops
  ○ Campus/club sponsored event pertaining to diversity, inclusion, health equity, or cultural competency

DIDACTICS
Complete ONE of the following designated didactic trainings in the AoD:
• Complete the video series titled "Quality Care for Diverse Populations" by the American Academy of Family Physicians
  ○ Submit a 100-word typed reflection addressing the necessity of culturally competency physicians and its importance in caring for a diverse population.
• Complete US Dept of Health and Human Services free online training course titled "A Physician's Practical Guide to Culturally Competent Care".
  ○ Submit a certificate of participation upon completion.
• Complete the webinar series titled "Cultural Competence Webinar Series: Quality Healthcare for Lesbian, Gay, Bisexual, & Transgender People".
  ○ Submit a 100-word typed reflection addressing the necessity of comprehensive systems of care that support positive outcomes and experiences for LGBT people.
• Complete the e-Modules "Culture and Health Literacy Modules".
  ○ Submit a 100-word typed reflection addressing the impact of inequalities in health information and health literacy and how healthcare systems may address this problem.

COMMUNITY SERVICE Volunteer with pre-approved community service agencies related to AoD. Must be approved by the advisor prior to volunteering. • Complete 15 volunteer hours per year at pre-approved service organizations promoting diversity, health equity, and/or the elimination of health disparities. • Volunteer hours must be logged and approved by the advisor within 30 days of completion.
SCHOLARLY WORK Complete ONE of the following scholarly activities related to the AoD. Must be approved by AoD advisor. Scholarly activities can be presented at Rowan-Virtua SOM Research Day or another scientific gathering. Scholarly activity mentorship can be provided by a Rowan faculty member or approved mentor from an outside institution. • Participate in ONE research or community health project pertaining to diversity, health equity, and/or the elimination of health disparities. Students should submit a poster for presentation. • Submit a paper for publication in a peer-reviewed journal on a topic related to the keyword "Social Determinants of Health" in diverse patient populations. • Design a "Community Advocacy Plan" to address a medical and/or public health issue that disproportionately affects a disadvantaged or marginalized community. Marginalized groups include, but are not limited to, those who identify as minorities in race, ethnicity, religion, sexual orientation, gender identification, disability, and/or socioeconomic class.
Area of Distinction in Humanism
LECTURES Attend and sign into each of the following lectures or activities (at least one per category) over the first three years of medical school: • Bi-Annual Community Health Fair at the Food, Supplies and Resources Distribution Center in Camden • Health Education Classes at local Catholic Charity • Diversity Week cultural competency sessions • Help coordinate and attend one Healthy Lifestyle Workshop at Rowan-Virtua SOM • Attend one Schwartz Rounds at a local hospital system

(*Continued*)

Table 3 (Continued).

Area of Distinction in Cultural Competency
DIDACTICS Participation in at least 6 hours of a selected seminar talk (eg, Campus Humanism Series). Seminars that fulfill the criteria will be at the discretion of the Faculty Advisor. • Prepare a 250-word reflection for each event attended above and explain how it impacts your professional development as a future physician. Compile all reflections into one document to be submitted to the faculty advisor.

COMMUNITY SERVICE
Perform 15 community service hours with the following community agencies:
• Cathedral Kitchen
• Camden Coalition
• Classes at Food, Supplies and Resources Distribution Center
• Rowan Community Health Center
  ○ Disease Management Classes
  ○ Community Health Fair
• Area Health Education Center (AHEC) sites (in addition to required time for required CSLL course)

SCHOLARLY WORK Prepare a poster presentation at research day OR submit a paper for publication in a peer review journal on a topic related to humanism in medicine. Must be approved by Faculty Advisor.

Conclusions

In the spirit of the osteopathic tenet, "Structure and function are reciprocally interrelated",[18] the concept of tensegrity invites faculty to encourage critical discourse, respecting that the inherent tension between these perspectives is what creates stability. Together, faculty are also energized toward the shared mission of training physicians who are humanistic, culturally competent, and humble, and who will approach future work with patient-centeredness, self-awareness, cultural humility and social responsiveness.

Among the leadership at Rowan-Virtua SOM, the Tensegrity Curriculum now provides a roadmap for innovative curriculum development, actualizing change-efforts in diversity, equity, and inclusion (DEI). As a community, students, faculty, and leadership see each other working toward the weaving-in of principles of DEI within all of our work. This increases legitimacy for the content and bolsters character and pride.

Despite increased focus on cultural humility in evolving medical education standards, studies show that empathy decreases among medical trainees as education progresses.[19] Next steps for institutions undergoing vast curricular changes include researching their effectiveness both in meeting the stated goals and objectives, but also in investigating whether retention or even improvement in empathy is possible. Breaking down biases, developing self-awareness, and fully preparing oneself to enter and care for marginalized communities requires a cognitive shift in the learner and a paradigm shift in educational systems. The tension will be felt. Yet the integrity it inspires could sustain empathy, lessen gaps in healthcare disparities and improve health equity in our curriculum and communities.

Acknowledgments

The authors wish to thank every Course Director and Clerkship Director, Case-Based Learning faculty, and the members of the Rowan-Virtua SOM Curriculum Committee, for the tireless work involved in this major curriculum change. The authors also thank New Jersey's three regional AHEC Centers: Shore AHEC, Garden AHEC, and River AHEC. It is because of these centers our CSLL III clerkship is so meaningful for our students year after year. The authors also thank Greg Ogrinc, MD, MS for critical review of the manuscript.

Funding

Funding for the NJ AHEC Program is provided by the Federal Department of Health and Human Services, Health Resources and Services Administration (HRSA). AHEC is a national program to recruit, train and retain a health professions workforce committed to underserved populations.

Disclosure

The authors have no conflicts of interest for this work.

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