# UNBOUNDING A DISCIPLINE TO BIND INNOVATIVE CHANGE: A NEW PARADIGM FOR HEALTH SERVICES RESEARCH

#### **Horizon Scan**

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#### **ABOUT THIS HORIZON SCAN**

Institutional norms have helped the field of health services research (HSR) establish itself as an academic discipline, but can make innovation within the field difficult. This paper looks at internal and external forces that could spark innovation within the discipline. The goal is to spark self-examination within the the HSR field by identifying, assessing, and embracing internal and external forces that could change the way HSR is conducted. The paper draws from other disciplines to present three archetypes for how the field of HSR could evolve to help leaders in the field think about the discipline in new ways.

### ABOUT THE PARADIGM PROJECT

The Paradigm Project is a concerted, collaborative effort to increase the relevance, timeliness, quality, and impact of health services research (HSR). Convened by AcademyHealth and funded by the Robert Wood Johnson Foundation, the project is ideating and testing new ways to ensure HSR realizes its full potential to improve health and the delivery of health care. The Paradigm Project is designed to push HSR out of its comfort zone—to ask what works now, what doesn't, and what might work in the future.

Learn more at www.academyhealth.org/ParadigmProject.

#### 1. INTRODUCTION

Health services research (HSR), a discipline at the intersection of health and health care, provides important insights for both policy and practice. Despite the vast body of research, health systems still struggle to improve quality and access, as well as reduce costs to improve health outcomes. The recent outbreak of the COVID-19 pandemic created a major world-wide disruption bringing center stage the great challenges health care systems around the world still face. Yet, in the face of crisis and complex constant change, the pandemic also provides us with a unique opportunity for reflection. There is no better time for HSR leaders—in education, research, policy, and practice—to embrace critical self-examination of the discipline and map a course to increase the field's relevance in improving both health and health care. Such self-examination requires understanding how a discipline may harness such terms as disruption, innovation, adaptation and agility.1 Interestingly, when examining research and academic disciplines through this expansive lens of change, a paradox confronts us.2

### THE PARADOX OF UNBOUNDING A DISCIPLINE TO BIND INNOVATIVE CHANGE

Characterized by a strong shared culture among members, disciplines create communities of knowledge.<sup>3,4</sup> Members adopt the norms and practices of a particular scientific community,<sup>5</sup> and the shared culture increases research outputs, such as publications; assists members in achieving credibility; and serves as the foundation for scientific consensus.<sup>6</sup> As disciplines evolve, they preserve scientific consensus by educating future generations about their rules and cultures and communicate knowledge as validated by their norms to wide audiences.<sup>7</sup> Herein lies the paradox. Innovation presupposes development of new knowledge or bringing together knowledge in new ways.<sup>8</sup> In contrast, the overspecialization of disciplinary knowledge, coupled with development of a shared consensus, strongly influences how members of a research discipline think and act, bounding their knowledge.<sup>9,10,11</sup>

Herbert Simon introduced the concept of 'Bounded Rationality' in the late-1950s, challenging the notion that people's decision-making processes are rational and without limitation. Simon claimed that decision processes are, in fact, conditioned by the interplay between the inner cognitive information processing limitations of the individual or organization and outer environmental constraints. These limitations and constraints foster decisions guided by heuristics, or mental shortcuts to ease the cognitive load, rather than pure rationality. The result: Decisions that are incremental and satisfactory

## WHY DISCIPLINES CHANGE

- Centripetal Forces: Or external factors like technological advances, and economic, political and social forces that place pressure on a discipline.
- Centrifugal Forces: Or internal factors like dissatisfaction of discipline members vis-à-vis the maturation or entrenchment of institutions that direct a discipline from within.

## HOW DISCIPLINES CAN EVOLVE

- A discipline sustains itself through innovations in response to external forces—e.g., the field of humanities becoming more digitized in response to funding opportunities and the advancement of STEM in the U.S.
- A discipline disrupts itself internally by forming diffusive boundaries enabling transdisciplinarily research across fields—e.g., the creation of the field of systemic musicology developing in departments outside traditional music departments like African American studies, art history, and sociology.
- A discipline can maintain equilibrium by reflecting on outside forces from within—e.g., the traditional field of law sustaining itself by critically assessing the power dynamic and social structures created by reforms so that people's lives are improved in addition to the litigation process.

but not necessarily ideal.<sup>10</sup> As these decisions are molded over time by experiences and participation in a community of knowledge, they create an insular learning environment that discourages—or bounds—innovative rationality and continuous change.<sup>13,14</sup>

The aim of our paper is not to provide a new HSR framework for discipline change but rather provide ideas and examples to spark self-examination within the HSR field in identifying, assessing, and, ultimately, embracing internal and external change forces in ways that increase relevance and meaning. Observing this aim through the lens of bounded knowledge and rationality, key questions arise:

- 1. What are the inner limitations and external constraints bounding the discipline of HSR?
- 2. What cultural changes can the discipline adopt to foster innovative and relevant knowledge?
- 3. Are the cultural changes the field needs to embrace all of the same magnitude?

This horizon scan examines how internal and external forces shape research disciplines and how these forces and change processes can 'unbound' knowledge and 'bind' innovative change in HSR. In this horizon scan, we first describe a conceptual framework of discipline change and then embark on a journey to the worlds of humanities, musicology, and law to present three archetypes of discipline change. By taking the reader on a voyage to new realms and research disciplines' communities of knowledge, we provide examples to help the discipline of HSR embrace self-examination and identify and harness external and internal forces to prepare the field for the future.

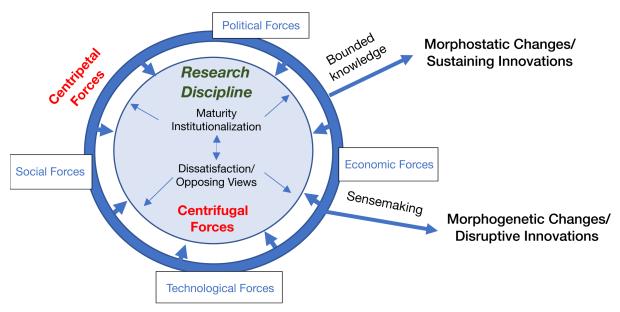
#### CONCEPTUAL FRAMEWORK

When examining complex change processes, a theoretically derived conceptual framework assists in charting possible courses of action. Hence, as we aim in this horizon scan to understand the factors impacting disciplines' change processes, we developed a conceptual model stemming from organizational change theory to guide our analysis (see Figure 1). This unique conceptual framework can serve both as:

- A retrospective tool to analyze and assess change processes adopted by various disciplines and communities of knowledge; and
- A prospective tool to identify and assess impending forces of change and the types and magnitude of change processes a discipline may adopt.

Organizational change is shaped by two conflicting forces: outer (centripetal) and inner (centrifugal) forces. Our model assesses the effect of and interplay between outer and inner forces on stimulating different levels of discipline culture change. Science operates in an environment of organizations and networks that create and give meaning to one another and are shaped by social, political, technical, and economic forces. In External forces, such as funding cutbacks, can trigger research disciplines to reactively change. Inner forces for change, on the other hand, can result from dissatisfaction with the dominant practices in a given field. This may stem, for example, from generational shifts or from people with diverse social backgrounds who find that the values and work in a given research discipline do not reflect their life experiences. Similar to social movements where an organized collective strives to change society, internally driven scientific intellectual movements search for new values and meanings, contest existing theories or methods, and sometimes lead to new research fields such as women's or African American studies.

#### FIGURE 1: CONCEPTUAL FRAMEWORK



Disruption theory assesses the outcomes of the interrelation between outer and inner forces through two possible change processes:

- Morphostatic changes, or 'sustaining innovations,' occur when a discipline implements change
  processes that enable the field to remain basically the same despite disrupting outer and/or inner
  forces. Sustaining innovations improve existing outputs or products, for example, by making the
  TV picture clearer or mobile phone reception better. These improvements can be incremental
  advances or even major breakthroughs, but essentially knowledge is bounded as before.
- Morphogenetic changes, or 'disruptive innovations,' occur when outer and/or inner forces push a discipline to observe the world differently, challenge presuppositions, and expand its boundaries.<sup>21</sup> Such disruptions cause the research discipline to 'make sense' of the change processes required and build a new identity and shared culture among its members, essentially leading to a transformation of its DNA.<sup>22,23,24,25</sup> Disruptive innovations include, for example, the light bulb, personal computers, as well as online education platforms such as massive open online courses known as MOOCs, which make higher education accessible to much bigger and broader audiences.

The identification of sustaining versus disruptive innovations implemented by a discipline can be illusive. A prime and current example relates to work-family integration changes, such as tenure-stop clock policies, that aim to increase women's participation in science, technology, engineering and mathematics (STEM) fields.<sup>26</sup> While many consider such policies as disruptive innovations, the COVID-19 pandemic has highlighted that these practices are, in fact, structural sustaining changes. In May 2020, the Australian Academy of Sciences published a rapid research information brief outlining the pandemic's early effect on women in the STEM workforce, finding that 6.3% of women in STEM suffered job loss compared to 4.8% of men. Moreover, while prior to COVID-19, women and men in Australia produced comparable numbers of research publications per working year, the report indicated that the return of women to traditional domestic and caregiving roles during the pandemic, led to a decline in their submission rates while men's submission rates increased.<sup>27</sup>

#### 2. THREE ARCHETYPES OF DISCIPLINE CHANGE

Using our conceptual framework, we next review three archetypes of discipline change. Each archetype presents a lens into the unique interplay between external and internal forces and the discipline's strategy to employ sustaining changes, disruptive changes, or a combination of both:

- Archetype 1 a discipline's sustaining innovation in response to external forces: the birth of digital humanities.
- Archetype 2 a discipline's disruptive innovation in response to internal forces: the case of systematic musicology.
- Archetype 3 a discipline employing both sustaining and disruptive innovations aimed at reaching equilibrium: the case of law.

Newton's Third Law, addressing outer centripetal and inner centrifugal forces, states that "for every action, there will always exist an equal and opposite reaction." Yet, organizational change theories do not consider outer and inner forces to always be of equal magnitude. Within this context, it is important to note that discipline change is driven by many elements of different magnitude and scope, many of which result from generational shifts or perceptions of discipline irrelevance. In this horizon scan, we focus on dominant triggers for discipline change and the discipline's reactive strategy through the three archetypes.

### ARCHETYPE 1: THE RISE OF STEM AND BIRTH OF DIGITAL HUMANITIES—SURVIVING BY CONNECTING WITH THE FASHIONABLE?

Coined in 2001 by the U.S. National Science Foundation, STEM emphasizes the link between prosperity and science and technology. In a 2005 report, 'Rising above the gathering storm,' the National Academies of Science, Engineering and Medicine shed light on the fact that US students were underachieving in the STEM disciplines compared to their international peers. The report predicted dire effects for the US of an ill-prepared workforce unable to compete successfully in the future global economy,<sup>28</sup> sparking massive investment in STEM-related K-12 education, higher education teaching and research, not only in the US but internationally.

Fascinatingly, the external forces advancing STEM pushed disciplines, such as humanities—once considered the foundation of scientific knowledge—to the periphery. For the first centuries of universities' existence, every student had to navigate the arts curriculum before advancing to an employable degree in law, medicine, or theology. Yet today, 'the humanities are not just dying, but by some measures they are almost dead.'<sup>29</sup> The past 15 years have witnessed the marginalization of humanities as a discipline. Studies have compared the usefulness of STEM as opposed to humanities, especially given that STEM degrees offer higher earning potential than any degree in the humanities.<sup>30</sup> This marginalization and even devaluation have led to a surge of activities to promote the value of a liberal arts education. For example, in 2017, the Washington Post published an article "Why we still need to study humanities in a STEM world," maintaining that despite current beliefs that all you can do with a liberal arts degree is teach, the humanities teach critical skills for humanizing a digitized world.<sup>31</sup> These skills include critical thinking, comprehensive knowledge, and a pluralistic mindset.<sup>32</sup>

A threatened discipline can respond in one of three ways to ensure survival—introversion, extroversion, or 'changing its persona.' An introverted approach leads a discipline to retreat into its shell, strengthening the discipline's inner community of knowledge, identity, and boundaries. This withdrawal may lead to irrelevance, however, as the discipline loses touch with the everchanging external world. Applying an extroverted approach, a threatened discipline will form a strategic alliance with a stronger discipline by incorporating its methods and knowledge to increase relevance. A discipline also can adopt a new persona by reconstituting itself within a newer and larger field of study, aiming at dominating the new discourse—for example the rebranding of anthropology within the wider field of cultural studies.<sup>33</sup>

Over the past two decades, there has been a surge of new methods digitizing the humanities. Such fields as linguistics, literature, history, philosophy, archaeology, religion, ethics, and the arts have created new methods of scholarly inquiry such as text mining and visualization to gather, store, interpret, and transmit culture. The development of computational tools, such as algorithmic literary analysis, enables humanities scholars to conduct research at a scale once thought impossible. Algorithmic literary analysis, also known as computational text analysis, is used to study style and authorship through advanced computational methods, including natural language processing, data mining, and artificial intelligence.<sup>34</sup> It transformed literary analysis from scrutinizing a small corpus of texts to examining entire genera of millions of texts to identify temporality. The digitization of texts and algorithmic literary analysis have expanded beyond literary criticism to media and journalism. For example, Twitter feeds during the Arab Spring revolution from Egypt and Tunisia were analyzed to understand the specific media-use patterns and strategies enacted by diverse groups to promote change.<sup>35</sup>

Despite the passing years, digital humanities has yet to have an agreed upon definition and unique disciplinary identity.<sup>36,37</sup> Called 'Humanities Computing' in the early days, it is unclear the extent to which digital humanities is in fact a survival strategy of technical support to 'real' humanities scholars<sup>38</sup> versus the birth of new disciplinary DNA. As yet, digital humanities has failed to become an 'equal partner at the table.' To become a new discipline, digital humanists need to show unique critical thinking about metadata, power, finance, and other governance protocols of the world.<sup>39</sup>

Digital humanities, according to our conceptual model, exemplifies how outer forces caused decline in relevance and led the humanities to search for survival strategies. Traditional humanities scholars view the ongoing digitization efforts, as well as availability of research funding to create archives, tools and methods, as beneficial. The rise of STEM led to the adoption of an extroverted survival strategy for the humanities in which computer culture was incorporated within existing discipline paradigms. While importing various computational techniques helped revitalize the humanities, the process sparked incremental and sustaining change rather than disruptive innovation in a mature discipline.<sup>40,41</sup>

### ARCHETYPE 2: INNER FORCES UNBOUNDING A DISCIPLINE— THE BIRTH OF TRANSDISCIPLINARY SYSTEMATIC MUSICOLOGY

In a constant inner turbulence of creativity, the discipline of musicology is not about making music but rather the study of how music is made. Creativity is a quintessential feature of human behavior, with spontaneous artistic creativity often considered one of its most mysterious forms.<sup>42</sup> Perceived as a community of knowledge striving to understand creative forces, musicology has been one of the drivers of the discourse of STEM versus STEAM (science, technology, engineering, arts, and mathematics). While the STEM disciplines are perceived as rigid with a predetermined monolithic culture,<sup>43</sup> the addition of music, for example, is seen as a source for encouraging innovation and creativity.

Within musicology resides an ongoing internal debate centered on differences between two approaches to studying music: structuralist versus post-structuralist.<sup>44</sup> The structuralist approach looks within the musical piece, analyzing the relationship between the various parts to the whole. With the aim of creating structure in what one may consider chaos, structuralist musicology theorists, for example, spend hours unpacking, framing, and internalizing performances of renowned jazz musicians Charlie Parker, Thelonious Monk, and Keith Jarrett, known for their mad improvisation skills.<sup>43</sup> This community of knowledge continues focusing on creating an understanding of the structure of musical pieces.

Conversely, the post-structuralist approach discerns between the various influences that led to the creation of the musical piece. 45,46 Within the discipline of musicology, a symphony orchestra—among the earliest organizational forms in society 7—symbolizes to some extent the inertia of traditional structures. Post-structuralist music scholars do not question orchestral structure but rather ask what influences promote innovation and creativity in such a predetermined setting. They do so by analyzing, for example, symphony orchestras' musical programs as they reflect cultural changes in what is considered canonical in music. 48,49,50

The post-structuralist approach has led to an interesting internal disruptive change process within the subfield of systematic musicology, which aims to address the complexity of music and its aesthetical, perceptual, psychological, and social dimensions. As such, systematic musicology, inherently operates through an interdisciplinary rather than monolithic approach.<sup>51</sup> Over the years, systematic musicology research, such as academic jazz studies, has developed in departments outside traditional music departments, including African American studies, art history, communications, sociology, and business.<sup>52</sup> Rather than competing with other communities of knowledge or retreating into its own shell, systematic musicology applied a disruptive change strategy, forming diffusive boundaries where music serves as the transdisciplinary creative 'glue' that binds together researchers across fields.<sup>53</sup>

### ARCHETYPE 3: THE INERTIAL REACTION OF LAW— MAINTAINING EQUILIBRIUM THROUGH DISRUPTION

The discipline of law reacts to external societal forces through internal processes used by the community of knowledge to adapt, tailor, and create new laws to restore societal equilibrium. <sup>54,55</sup> Law aims to do so by examining social processes driving social evolution and their impact on existing societal institutions' norms. <sup>56</sup> For example, the LGBTQ movement has long battled culturally and politically to change three societal pillars: family, marriage, and work. The US Supreme Court's June 2020 ruling that the Civil Rights Act of 1964 prohibitions against discrimination based on sex includes sexual orientation and gender identity marked a societal evolution. The discourse on LGBTQ rights, within the discipline of law, has been impacted by queer legal theory and sexual citizenship, calling for updating laws and litigation practice and generating new knowledge on how societal norms and structures affect the law. <sup>57,58</sup>

Initially, the study of law was an apprenticeship to train future generations of practitioners. The traditional 'Langdellian' legal science, formulated at Harvard Law School in the 19th century, focused mainly on parsing cases, discovering axiomatic principles, and applying those principles with rigorous deductive logic so that the scholar could discern specific legal rules as well as the single correct result in any judicial dispute.<sup>59</sup> Over the years, this disciplinary approach drove mostly sustaining innovations of legal reform. For example, reforms aimed at addressing violence against women have included changing the consent standard in statutory rape law, eliminating the requirement that women physically resist perpetrators, and shielding women's sexual history. Such reforms may have improved the litigation process but have not necessarily changed women's lives.<sup>60</sup>

The tension between practitioners and academics within the discipline of law continued over the years. The rise of critical legal scholars in the 1980s, such as Kimberle Crenshaw and her work on intersectionality of race, class, and gender, marked within the discipline of law the inner rise of ideological schools of thought focusing on rights, equality, and justice. These schools of thought put forth the paradigm that law is not neutral and instead favors powerful groups within society. Spurring disruptive transformation within law's community of knowledge, these internal forces aimed to drive the transition from practitioners to academics. This transformation focused from moving scholarly works from merely describing legal advances, or reforms, to critically assessing the bilateral effect of law and social structures. S9,62

### 3. THE CASE OF HEALTH SERVICES RESEARCH— 'THE OLD IS DYING AND THE NEW CANNOT BE BORN'

Our journey through the humanities, musicology, and law poses interesting applications to HSR. In this section we review lessons learned from the three archetypes to HSR through three examples. We aim not to offer solutions on the type, magnitude, or implementation of discipline change within HSR but rather trigger awareness and thoughts to possible changes, whether sustaining or disruptive.

### ADOPTING THE FASHIONABLE? PATIENT ENGAGEMENT IN HEALTH SERVICES RESEARCH

HSR, similar to other disciplines, is constantly challenged by external forces calling for change as health care expenditures grow, research funding decreases, and benefits to patients from research outputs suffer from lack of timeliness and relevance. In recent years, efforts to advance patient-centered care and the accompanying concept of patient and other stakeholder engagement in both health care delivery and research have exerted strong external forces on HSR.

In the past two decades, the field has seen a surge of research and action around patient engagement, from studying patient's interaction with the health care system<sup>63</sup> to patients' active involvement in research to improve research credibility as well as translation into clinical practice.<sup>64</sup> Largely derived from Arnstein's ladder of citizen participation,<sup>65</sup> patient engagement is a complex phenomenon that involves an increase in power within societal decision-making processes. Patient engagement poses a challenge and cultural change for HSR. If truly embraced, it requires a disruptive change in the division of power and knowledge within the HSR community. Yet, much like digital humanities, HSR may opt for a sustaining strategy that embraces patient engagement and increases relevance, but the discipline's culture does not change.

One such example is the engagement of people with lived experience as grant reviewers. Recent studies have reported on training and use of structured formats to include patients in grant reviews. In assessing patient engagement in grant reviews at the Patient-Centered Outcomes Research Institute, Fluerence and colleagues found that patients tended to change their individual scores following discussions slightly more than scientists and stakeholders. The study further highlighted that some scientists considered patients to be less authoritative. Limited research exists on the effectiveness of patient and stakeholder engagement in research and the best ways to include people with lived experience in HSR so that they are a disruptive innovation in HSR that brings a new and equal voice in research funding decision.

Two of the AcademyHealth Paradigm Project's design teams are working to create change processes aimed at improving the field's inclusion of marginalized communities and emphasizing priorities of key stakeholders, including patients, family and caregivers, clinicians, payers, and policymakers. User involvement requires dynamic structures and processes legitimized by both participants and nonparticipants. These processes must be empowering and enabling so that patients and other stakeholders have agency and the ability to shape the methods used for their involvement over time. Such an approach is more likely to lead to efficient and effective patient and stakeholder engagement, building a better health service from the perspectives of patients, clinicians, and other stakeholders. The Paradigm Project teams need to evaluate to what extent their change processes support superficial structural mechanisms of inclusion that merely sustain the field versus change processes that drive deeper disruption and offer patients and other stakeholders a true seat at the table and significant impact on research outputs, such as grants and publications, and clinical practice.

### DIFFUSING CREATIVE BOUNDARIES? MOVING HSR FROM AN INTERDISCIPLINARY SILOED DISCIPLINE

As music is the glue of systematic musicology, the 'glue' in HSR is a focus on health and the role that health services play in health. Different disciplinary scholars and teams work within HSR creating internal forces for knowledge production. Yet to what extent are discipline boundaries diffusive, enabling diverse internal forces to work together rather than in opposition?

The Institute of Medicine defined HSR as 'a multidisciplinary field of inquiry, both basic and applied, that examines access to, and the use, costs, quality, delivery, organization, financing, and outcomes of health care services to produce new knowledge about the structure, processes, and effects of health services for individuals and populations.'71 Inherent in this definition is the assumption that HSR's interdisciplinary community of knowledge widens the disciplinary borders of HSR, allowing opportunities for diverse and innovative paradigms. Yet, health care has largely resided in a siloed state. Integration and coordination of care continue to be one of greatest challenges in improving cost, quality and access.<sup>72</sup> The fragmentation of care delivery as well as clinical education, in which health professionals are trained separately, create within HSR sub-disciplinary and siloed communities of knowledge. Similarly, many investigators who conduct HSR are trained in academic disciplines that are relatively siloed rather than inclusive of a transdisciplinary perspective.

Systematic musicology, as we demonstrated, has moved from bounding creativity to creating diffusive disciplinary borders that enable diverse disciplines to study music together. Applying this analogy to discipline change within HSR would require that the field create transdisciplinary rather than interdisciplinary mechanisms. In interdisciplinary research, scholars of different scientific disciplines apply and integrate existing theoretical frameworks. In transdisciplinary research, however, scholars work jointly to create new conceptual, theoretical, methodological, and translational innovations that integrate and move beyond discipline-specific approaches to address a common problem.<sup>73</sup>

Among Paradigm Project's design teams, several are working to identify and foster change mechanisms to promote a transdisciplinary foundation in HSR. For these teams to succeed, mechanisms are required to encourage and support the growth of transdisciplinary scholars. A 2019 report for European Cooperation in Science and Technology on interdisciplinary careers highlighted the challenges facing young transdisciplinary researchers. These challenges include mechanisms to assess and support career advancement of transdisciplinary researchers in highly specialized academic settings and the lack of adequate acknowledgment by universities that new transdisciplinary collaborations, such as team science, take time to establish.<sup>74</sup> Creating mechanisms that will help establish and foster transdisciplinary scholars and teams will not only assist in developing new

conceptual models and theories but also ensure ongoing creativity within HSR. Examples of such mechanisms are creating transdisciplinary study sections within granting agencies that promote transdisciplinary research. For example, the National Institutes of Health's organizational structure of individual institutes makes it a challenge to find a home for research proposals that cross diseases, disorders, or conditions. This siloed organization impacts not only funding calls but also the review process. For example, study sections and review panels are often highly specialized, and individual reviewers may favor their own disciplines rather than an innovative transdisciplinary approach addressing complex problems in health and health care.

#### INVESTIGATING WHAT MATTERS AND LOOKING WITHIN? ADDRESSING SYSTEMIC RACISM AND MOVING THE NEEDLE ON HEALTH INEQUITIES

An ongoing challenge within the discipline of law is that 'studying the law we become part of it.'62 Much like law, HSR is a discipline in which practitioners, academic scholars, and practitioner-academics reside hand in hand. HSR's ability to study not only descriptive health care challenges but also the effects of social structures on health is vital.

For over 30 years, HSR has studied health and health care disparities, yet disparities persist. Recent disruptive social events, such as protests in the US of police brutality or the direct and ripple effects of COVID-19 on minority communities around the globe, have spurred a difficult dialogue about how systemic racism is embedded within virtually all elements of society. Of the challenges HSR and other disciplines face, addressing structural racism is one of the most difficult. Successfully confronting structural racism requires HSR to first look within, moving from the unconscious or implicit bias that provides understanding of the functions and operations of racism at the individual level. Then the field must move to identify, through critical race theory and critical pedagogy, the societal racist systems and structures that reside within HSR.<sup>75</sup> As a discipline, HSR must then translate value-laden concepts, such as racism, social justice, and equity, into everyday practices, moving from a power-over to a power-with strategy in hiring practices, research funding, and peer-reviewed dissemination of scholarly work.

Although the Paradigm Project is addressing some aspects of structural racism, in particular, diversity in the HSR workforce, all teams can apply the lens of equity in their work with a goal of reducing health and health care inequities. Disruptive innovations, such as addressing structural racism in HSR, require an in-depth look at who is sitting at the table and who is not. We urge teams to avoid implementing merely sustaining changes, such as those adopted to advance women in STEM, that do not address the root problem of racism inherently and avoid the test of disruption. Reducing health disparities will require addressing systemic racism, colonialism, and social privilege as part of research and interventions.<sup>76</sup>

Historically, HSR and funding agencies often have been unwilling or unable to tackle these root causes of disparities, citing a litany of arguments such as "out of our scope, not politically possible, too dangerous, too hard, and too much politics, some economic analyses may threaten powerful stakeholders, and look at AHCPR's near death experience." Ultimately, only disruptive change in HSR can contribute to transformational advances in health equity. A promising first step occurred in September 2020 when the advisory council to National Institute for Minority Health and Health Disparities unanimously approved further development of the following research concept: "Understanding and Addressing the Impact of Structural Racism and Discrimination on Minority Health and Health Disparities."

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