Title

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Journal

Academic Medicine, 95(12)

ISSN

1040-2446

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Publication Date

2020-12-01

DOI

10.1097/acm.0000000000003559

Peer reviewed

HHS Public Access

Author manuscript

Acad Med. Author manuscript; available in PMC 2021 July 14.

Published in final edited form as:

Acad Med. 2020 December ; 95(12): 1817–1822. doi:10.1097/ACM.0000000000003559.

Reconsidering Systems-Based Practice: Advancing Structural Competency, Health Equity, and Social Responsibility in Graduate Medical Education

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Abstract

Health inequities stem from systematic, pervasive social and structural forces. These forces marginalize populations and create the circumstances that disadvantage these groups, as reflected in differences in outcomes like life expectancy and infant mortality and in inequitable access to and delivery of health care resources. To help eradicate these inequities, physicians must understand racism, sexism, oppression, historical marginalization, power, privilege, and other sociopolitical and economic forces that sustain and create inequities. A new educational paradigm emphasizing the knowledge, skills, and attitudes to achieve health equity is needed.

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Other disclosures: None reported.

Ethical approval: Reported as not applicable.

Systems-based practice is the graduate medical education core competency that focuses on complex systems and physicians' roles within them; it includes topics like multidisciplinary team-based care, patient safety, cost containment, end-of-life goals, and quality improvement. This competency, however, is largely health care centric and does not train physicians to engage with the complexities of the social and structural determinants of health or to partner with systems and communities that are outside health care.

The authors propose a new core competency centered on health equity, social responsibility, and structural competency to address this gap in graduate medical education. For the development of this new competency, the authors draw on existing, innovative undergraduate and graduate medical pedagogy and public health, health services research, and social medicine frameworks. They describe how this new competency would inform graduate medical education and clinical care and encourage future physicians to engage in the work of health equity.

It is striking that among the 6 Accreditation Council for Graduate Medical Education (ACGME) core competencies, the terms disparities, inequities, justice, community, underserved, vulnerable, and minority do not appear once.[1] Nevertheless, social and structural determinants of health—including but not limited to race, gender, culture, income, education, immigration, neighborhood environment, collective efficacy, institutional practices, economic forces, and public policies—collectively contribute more to health and well-being than the totality of health care services.[2–8] Thus, the ACGME competencies should prioritize the training of physicians to understand these social and structural determinants and to work with communities and non-health care sectors to eradicate health inequities, which have their roots in systemic inequalities by race, class, gender, sexuality, and other marginalized characteristics.

Systems-based practice (SBP) is the ACGME core competency that focuses on complex systems and physicians' roles within them (see Table 1). We contend, as have others, that the SBP competency falls short of addressing the fundamental systemic factors that most contribute to health inequities.[9] The ACGME defines SBP as "an awareness of and responsiveness to the larger context and system of health care, including the social determinants of health, as well as the ability to call effectively on other resources to provide optimal health care."[1] SBP encompasses multiple other major topics—patient safety, cost containment, end-of-life goals, and health care quality and quality improvement.[10] However, it is silent regarding the inequitable U.S. health care landscape and prepares physicians to operate within this landscape rather than to actively reshape it. As a competency, then, SBP risks preparing a new generation of physicians to work for the benefit of health care systems rather than for underresourced and vulnerable patients.

As the ACGME works toward Milestones 2.0, this is an opportune time for our profession to revisit this educational rubric and consider how a new competency can better train physicians to be enlightened actors to improve health equity. In this Perspective, we describe the history of the ACGME SBP competency and its shortcomings in today's social and health care realities, and we propose a new competency to reorient our graduate medical education system toward structural competency, health equity, and social responsibility.

A History of SBP

In 1997–1998, the ACGME Outcomes Project generated 6 core educational competencies for graduate medical education: (1) practice-based learning and improvement, (2) patient care, (3) medical knowledge, (4) interpersonal and communication skills, (5) professionalism, and (6) SBP.[1] Literature reviews informed the development of 13 initial educational domains, which were narrowed to these 6 competencies through a series of structured interviews, focus groups, and deliberations with medical educators (e.g., program directors, ACGME committees, advisory groups).[11] The resulting competencies were adopted by the ACGME in 1999.

These core competencies define training for residents at a critical point in their professional development, informing long-lasting skills and practice patterns. Swing wrote, “The General Competencies have become the common language for defining physician competence and the organizing principles for [the] education of physicians in training.”[11] Batalden and Leach, leaders in shaping these core competencies, went further in describing SBP as creating values or ideology:

> Shared assumptions are the glue that holds a diverse and loosely coupled culture together; they enable communities to define themselves, to adopt values, and to become faithful to them.… Systems language invites new conversations and attention to some of the limits of some of our familiar assumptions.[12]

Within SBP, subcompetencies fall into 3 major themes: (1) to work within multidisciplinary health care teams and systems; (2) to advocate for health care system improvements; and (3) to incorporate cost, payment, and value considerations into patient care (see Table 1). The ACGME included SBP as a competency explicitly to push the profession away from its long-held image of the solo practitioner toward that of a steward of the increasingly complex systems in which physicians were working.[12] The goal was to endow physicians with the “language of systems” to help them lead multidisciplinary health care systems.[12] The ACGME envisioned that: “residents of the future will diagnose and treat systems as they do patients and will be socialized to master and design rather than cope with and fight the systems in which they care for patients.”[12] This “language of systems” and the definition of SBP, we contend, socialize physicians into an existing inequitable health care landscape and marginalize other conversations—like those about health equity and physicians’ social responsibility.

For Health Care Systems, By Health Care Systems

The SBP competency invites questions that it does not answer (see Table 1). For example, what should physicians do if the goals of “quality patient care and optimal patient care systems”[1] are in conflict? What if advocacy for “optimal health care systems”[1] worsens health inequities? What if “considerations of value, cost awareness, delivery and payment”[1] harm vulnerable populations? What are physicians’ roles as systems actors outside the health care sector? For what purpose and in whose interests are we in medicine optimizing systems and installing physicians as their stewards?

Implicitly answering these questions, residencies and fellowships have created SBP curricula that generate financial gains for the health care systems in which they are embedded, termed a "win-win situation."[13] Examples from published SBP curricula train physicians to reduce hospital costs[13,14]; task residents with checking in patients, coding, and billing for patient encounters[15]; and incorporate cost cutting considerations into morbidity and mortality conferences.[16] Considering the cost containment theme within the SBP competency, some advocate that physicians should "do no harm" by withholding tests, procedures, and medications that could cause patients financial distress.[17,18] These SBP curricula teach physicians that "optimal health care systems"[1] are synonymous with cost cutting and the generation of billable units.

Such curricula fail to consider that cost containment and financial wins for hospital systems can erect structural barriers to care for vulnerable (and even not so vulnerable) populations and for those who are uninsured or underinsured. Such lessons also avoid the more substantial structural causes of patients' financial distress, like unfair prescription drug pricing, the absence of universal health care, disproportionate national expenditures on health care relative to social services, variations in out-of-pocket costs depending on insurance plans and geography, and the layered complexities of health care economics due to the absence of price transparency in the U.S. system. Unlike educational competencies in Canada, the United Kingdom, and Australia, SBP curricula in the United States do not address physicians' roles in patient- and policy-level advocacy to address these fundamental root causes of health inequities.[19,20] In their systematic review of the literature on physician trainings on cost-conscious care, Stammen and colleagues state that: "Although measuring the value of care is extremely complex, outcome measures that focus solely on volume or costs might promote the incorrect assumption that cheaper is better."[21] By training physicians to be resource stewards without educating them in the social and structural contexts affecting health and health care, there is the potential for normalizing institutional barriers to care for vulnerable populations and inadvertently worsening inequities.

Some specialties, programs, and educators have integrated a focus on vulnerable populations within SBP.[22,23] However, the subthemes of cost containment and health care–centric advocacy may be at odds with the needs of minority and vulnerable populations. Using the example of a program's financial constraints affecting its ability to deliver services for underresourced populations, there is the need to teach physicians advocacy skills so they can challenge these resource limitations and counteract the effects of societal neglect. Braveman writes about the challenges of pursuing health equity, highlighting that "a more deeply rooted and daunting challenge is cynicism and lack of respect for ethical values and for human rights."[24] She goes on to say that:

> Academic medicine can play an important role in pursuing health equity. It is a powerful force in setting norms and shaping the values and attitudes of medical students, their attending physicians, and research faculty whose publications may reach far and wide.[24]

The present affords us in medical education an opportunity to build competencies around health equity, social responsibility, and structural competency.

Toward a New Competency: Structural Competency, Health Equity, and Social Responsibility

Here, we present a new competency for graduate medical education with 3 subthemes: structural competency (knowledge), structural action (skills), and social responsibility (attitudes) (see Table 2). Policy structures and health care systems can limit physicians' abilities to provide equitable care. A commitment to a process and goal of health equity entails prioritizing the needs of those at greatest risk of poor health.[25] This competency would encourage creativity in training physicians to partner with communities and to change institutional structures that drive health and social inequities. This creativity would be grounded in subcompetencies on the topics of health and social inequities; community engagement; social determinants of health; and the economic, policy, and institutional structures that influence health. All these topics are essential for future physicians to engage in eradicating health disparities in the United States.

Our proposed new competency prioritizes the language of health equity for our profession.[25] Its content is informed by existing, innovative undergraduate and graduate medical education pedagogy and public health, health services research, and social medicine frameworks.[4,19,26–48] The subcompetencies have real-life analogues to the daily challenges that residents face (see Box 1) and are grounded in emerging educational initiatives (see Table 2), a growing literature that could serve as a resource to help program directors incorporate this new competency into their curricula.[4,19,26–48]

To be sure, adding a new competency to the current list of 6 ACGME core competencies would increase the already complex landscape of graduate medical education. We have considered whether this new competency could feasibly be incorporated into an expanded SBP competency. SBP encompasses important educational topics, such as team-based care, patient safety, cost containment, end-of-life goals, and health care quality and quality improvement. Expanding it to include the goals of structural competency and health equity would create a construct that would, at times, be at odds with itself, potentially causing confusion rather than streamlining efforts. Creating a new competency allows for a focus on the goals that are both distinct from and provide necessary balance to the existing goals of the SBP competency.

Given the new ACGME Common Program Requirements emphasizing the recruitment and retention of a diverse and inclusive workforce, the time is right for this new competency.[1] Resident-led education on topics of diversity, health disparities, health equity, and social justice reveal an unmet need within traditional curricula. In addition to preparing residents and fellows to better serve diverse patients and communities, our new competency has the potential to enhance the recruitment and work satisfaction of trainees from minority groups historically underrepresented in medicine by creating educational environments that are more critically reflective of topics like implicit bias, racism, personal histories, and privilege, among others.[49,50]

Recognizing the increasing complexity of modern health care, the original intention of the SBP competency was to move physicians away from the mentality of the solo practitioner

and toward a shared language of systems. Now, however, as our health care system reckons with its relationship to society and physicians grapple with their roles in bending the curves of health and social inequities, we must shift our educational priorities again. In this Perspective, we proposed a new competency that would represent a critical structural change to realign our graduate medical education system toward health equity.

Acknowledgments

Funding/Support: This project received support from the National Institutes of Health/National Center for Advancing Translational Science UCLA Clinical and Translational Science Institute (grant number UL1TR000124).

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Box 1

Two Approaches to a Clinical Case According to the Current SBP Competency and a Proposed New Competency: Structural Competency, Health Equity, and Social Responsibility

Clinical case Ms. W is a 56-year-old woman with diabetes mellitus type II. This is her third hospitalization in 6 months for diabetic ketoacidosis. Ms. W self-identifies as black and lives in an underresourced neighborhood adjacent to the hospital. She describes difficulty managing her diet and is often unable to afford her prescriptions, leading to rationing the medication to make each prescription last longer. The resident assisted in stabilizing Ms. W's acute medical condition and is working with the team to develop a discharge plan that hopefully will prevent another admission and improve Ms. W's health and quality of life.	
SBP competency formulation SBP acknowledges the reality of the medication's expense, the resulting financial distress to the patient, and the cost to the health care system of repeated hospitalizations. Lessons about SBP inform the resident's approach to this case, which focuses on providing cost-conscious care, both at the population level to reduce the financial strain on the health care system and at the patient level to reduce Ms. W's financial stress in obtaining her medications.	**New competency formulation** The resident approaches this case through the lens of structural vulnerability. Through the newly revised residency curriculum, the resident learned about the sociopolitics and history of the city in which the training program is situated, specifically those of the hospital-adjacent underresourced neighborhood in which Ms. W lives. Informed by multidisciplinary classes, the resident has a foundational understanding of the city's history of explicit and de facto racial segregation and redlining that created inequities in income, power, education, and other health-related opportunities, including access to fresh foods. The curriculum also examined the hospital's role, currently and historically, in contributing to the health and social inequities faced by those who live in Ms. W's neighborhood, from a history of explicit racism to present-day differential treatment of patients according to health insurance status. Alongside this historical and contextual information, the resident's detailed social history helps the care team appreciate Ms. W's own social/structural contexts and vulnerabilities. In addition, the residency curriculum created venues for residents to examine their own personal implicit and explicit racial, gender, and other biases, which informs their stance of cultural and structural humility toward patient care.
SBP competency treatment plan Wanting to avoid further financial distress, the resident recommends Ms. W try a lower-cost insulin formulation and refers her to social work for help navigating patient assistance programs for reduced cost medications. To address Ms. W's difficulty in adhering to an appropriate diet, the resident orders a repeat nutrition consult while communicating a sense of futility to the medical student on the case. Finally, the resident works on a quality improvement project to optimize the hospital system's care pathways for patients who are similarly unable to afford insulin.	**New competency treatment plan** The resident expresses frustration during multidisciplinary team rounds that the current state of health care makes the ideal treatment plan impossible to implement for Ms. W by the time of discharge. The team spends time reflecting on this shared frustration while discussing strategies to maintain engagement and a sense of meaning in this work. As a result of ideas shared during the team discussion, the resident inquires and finds out that while Ms. W is well educated on diabetes-related nutrition and foods she should not eat, she shops predominantly at a convenience store near her home, which stocks mostly processed foods that disadvantage her in maintaining glycemic control. As transportation options in her neighborhood are limited and costly, Ms. W is unable to access alternative groceries. Classes and discussions on rounds about community partnerships and resources help the resident locate a church group in Ms. W's neighborhood that organizes a low-cost, weekly bus to a farmer's market in a neighboring town. The resident cancels the nutrition consultation. The resident also seeks out connections with nonprofit organizations, policymakers, medical–legal partnerships, and community advocacy groups to help connect Ms. W, and other patients in her neighborhood, with needed resources that will improve her health and reduce her risk of rehospitalization. In addition, the resident considers the ethics of selecting a medication based on unfair drug pricing, examines the health and economic inequities exacerbated by drug pricing, and identifies areas for program-, institutional-, and policy-level advocacy. Benefiting from a new curriculum on health policy and advocacy, the resident feels equipped to mobilize efforts that lead to a national physician organization releasing a new position statement in support of legislation to promote fairer, more equitable drug pricing.

Abbreviation: SBP, systems-based practice.

Table 1

Description of the Current Systems-Based Practice ACGME Core Competency[1]

Subtheme	Description
Work within multidisciplinary health care teams and systems	• Work effectively in various health care delivery settings and systems relevant to the clinical specialty • Coordinate patient care across the health care continuum and beyond as relevant to the clinical specialty • Work in interprofessional teams to enhance patient safety and improve patient care quality
Advocate for health care system improvements	• Advocate for quality patient care and optimal patient care systems • Advocate for patients within the health care system to achieve the patient's and family's care goals, including, when appropriate, end-of-life goals • Participate in identifying system errors and implementing potential systems solutions
Incorporate cost, payment, and value considerations into patient care	• Incorporate considerations of value, cost awareness, delivery and payment, and risk–benefit analysis in patient and/or population-based care as appropriate • Understand health care finances and its impact on individual patients' health decisions

Abbreviation: ACGME, Accreditation Council for Graduate Medical Education.

Table 2

Description of a Proposed New Competency for Graduate Medical Education: Structural Competency, Health Equity, and Social Responsibility

Subtheme	Description
Structural competency (knowledge)	• Understand structural vulnerability, racism, sexism, oppression, historical marginalization, and social/structural determinants of health and their effects on patients' health, health care decisions, and experiences of illness, particularly for those factors prevalent within the neighborhoods served by the program and its clinical sites[26–31] • Understand structural and cultural humility and its application to patient care and other physician functions[32–34] • Understand implicit/explicit race/gender bias and its effects on health outcomes, health inequities, and patient care[35,36] • Understand how racism and sexism have affected the development of practices and policies in health care and other systems that have historically disadvantaged minority populations[37–39] • Understand the political, social, and economic forces that drive social, structural, health, and health care inequities[4,19,32]
Structural action (skills)	• Incorporate direct interventions on patients' social and structural determinants of health into all physician functions (e.g., patient care, multidisciplinary team meetings, quality improvement, supervision of trainees)[4,19,40] • Participate in identifying and changing team/program/institutional practices that contribute to inequities in the quality of and access to care, particularly for racial/ethnic minorities, women, and other vulnerable, historically marginalized, and oppressed populations[40–44] • Participate in community partnerships and advocacy (e.g., legislative advocacy, changing policies within the program and its clinical sites, media communications) to facilitate structural interventions and promote health equity[27,45] • Develop skills in managing moral injury, moral distress, and burnout when confronting structural vulnerability and social/structural inequities[46,47]
Social responsibility (attitudes)	• Examine personal histories, identities, and implicit/explicit race and gender biases toward the goals of addressing power imbalances in the patient–physician relationship and optimizing health care systems' ability to deliver equitable patient care[36,48] • Examine the ethics of patient care decisions, with a focus on structural vulnerability and reducing the inequities faced by historically marginized and oppressed populations[44] • Engage in reflective and change processes regarding individual and institutional biases that affect care for racial and ethnic minorities, women, and other vulnerable, historically marginalized, and oppressed populations[26,32,36,44]