New Horizons -Addressing Healthcare Disparities in Endocrine Disease:

Bias, Science, and Patient Care

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Abstract

Unacceptable healthcare disparities in endocrine disease have persisted for decades, and 2021 presents a difficult evolving environment. The COVID-19 pandemic has highlighted the gross structural inequities that drive health disparities, and anti-racism demonstrations remind us that the struggle for human rights continues. Increased public awareness and discussion of disparities present an urgent opportunity to advance health equity. However, it is more complicated to change the behavior of individuals and reform systems because societies are polarized into different factions that increasingly believe, accept, and live different realities.

Key words: equity, disparities, quality of care, outcomes, endocrinology
To reduce health disparities, clinicians must: 1) Truly commit to advancing health equity and intentionally act to reduce health disparities; 2) Create a culture of equity by looking inwards for personal bias and outwards for the systemic biases built into their everyday work processes; 3) Implement practical individual, organizational, and community interventions that address the root causes of the disparities; 4) Consider their roles in addressing social determinants of health and influencing health care payment policy to advance health equity.

To care for diverse populations in 2021, clinicians must have self-insight and true understanding of heterogeneous patients, knowledge of evidence-based interventions, ability to adapt messaging and approaches, and facility with systems change and advocacy. Advancing health equity requires both science and art; evidence-based roadmaps and stories that guide the journey to better outcomes, judgment that informs how to change the behavior of patients, providers, communities, organizations, and policymakers, and passion and a moral mission to serve humanity.

*Rashomon (1950)*

**Priest:** If men don’t trust each other, this earth might as well be hell.

**Commoner:** Right. The world’s a kind of hell.

**Priest:** No! I don’t want to believe that!

Unacceptable health disparities in care and outcomes have persisted across factors such as race/ethnicity, socioeconomic status, sexual orientation/gender identity, and geographic location, and 2021 presents an evolving environment with difficult challenges and new opportunities. In 2012 the Endocrine Society published a detailed health disparities scientific review in *The Journal of Clinical Endocrinology and Metabolism.* The review documented population differences in prevalence and outcomes of common endocrine conditions and
concluded: “Compared to non-Hispanic whites, non-Hispanic blacks have worse outcomes and higher mortality from certain disorders...“ The review recommended “basic science, population-based, translational and health services studies to explore underlying mechanisms contributing to endocrine health disparities.”

Since the 2012 review, several frameworks and roadmaps have outlined how to reduce health disparities based upon the substantial evidence base about effective interventions. A comprehensive, holistic approach is critical for addressing disparities in disease prevalence, quality of care, and outcomes. As exemplified by diabetes, one of the model diseases for understanding health inequities, reducing health disparities requires addressing health issues and underlying social drivers of health such as food insecurity, safe neighborhoods for walking and physical activity, stable housing, and living wages. In its definition of health equity, the World Health Organization (WHO) emphasizes providing access to high-quality care and addressing social drivers of health within a human rights and social justice lens: “Equity is the absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically. Health inequities therefore involve more than inequality with respect to health determinants, access to the resources needed to improve and maintain health or health outcomes. They also entail a failure to avoid or overcome inequalities that infringe on fairness and human rights norms.”

In light of these ideals, 2020 was challenging. COVID-19, systemic racism, and political discord have exhausted many people. I was recently on a video call with rural clinicians my team collaborates with to improve diabetes care and outcomes. They were concerned with the surge of COVID-19 cases in their area, and even more disheartened with the resistance of many of the public to wear masks and social distance in favor of “fighting for freedom.” And
yet, hope is present with vaccines being distributed for COVID-19, tens of millions of people denouncing racism, and many at the ballot box yearning for civility and communal spirit.

In this New Horizons paper, I take the perspective of the typical clinician who is motivated to provide the best care to all their patients and is asking themselves what should I do to reduce health disparities in today’s environment. I take a realistic view of the practical challenges clinicians face and what is required for them to succeed in today’s world. I will discuss what we can do as individual clinicians taking care of our patients, as members of health care organizations delivering a system of care, and as persons in society. It is critical not to be locked into the past nor to bring a switchblade to a gun fight. We can build upon a strong foundation of clinical skills and surround them with complementary capabilities to most effectively reduce health disparities. Advancing health equity requires both science and art; evidence-based roadmaps and stories that guide the journey to better outcomes, judgment that informs how to change the behavior of patients, providers, communities, organizations, and policymakers, and passion and a moral mission to serve humanity.

Great art and humanities elucidate the essence of the human experience, and thus I will share quotes from movies that introduce and highlight key issues clinicians face in reducing health disparities. Like many over the past year, my family has streamed movies at home as we limit outside activities because of the COVID-19 pandemic. Both niche art films and movies geared for mass general audiences have captured human epiphanies and appealed to our heads and hearts.
Total Recall (1990)\textsuperscript{13}

Lori Quaid: No wonder you’re having nightmares. You’re always watching the news.

Rashomon (1950)\textsuperscript{1}

Commoner: But is there anyone who’s really good? Maybe goodness is just make-believe.

Priest: What a frightening...

Commoner: Man just wants to forget the bad stuff, and believe in the made-up good stuff. It’s easier that way.

We live in difficult, contentious times

Worldwide 2020 was a difficult year, with many people in need of a cathartic scream as depicted in the iconic painting by Edvard Munch or Arnold Schwarzenegger as Douglas Quaid waking up from a nightmare suffocating to death on Mars in Total Recall.\textsuperscript{14} The COVID-19 pandemic has highlighted the gross structural inequities that drive health disparities,\textsuperscript{15} and anti-racism demonstrations remind us that the struggle for human rights continues. COVID-19 has disproportionately harmed Black, Indigenous, and People of Color (BIPOC) and poor people, reflecting higher baseline comorbidity from diseases caused by health disparities, worse access to high-quality care, and higher exposure to COVID-19 from jobs as essential workers and crowded housing.\textsuperscript{16} Increased awareness and public discussion of systemic racism has been spurred by police brutality against BIPOC and the Black Lives Matter movement.\textsuperscript{17} The societal call to action to address inequities is high because of COVID-19 and the movements against systemic racism.\textsuperscript{18}
However, impeding this call to address inequities is the heightened polarization of society over the past 40 years. BIPOC have frequently had their trust violated by the medical and scientific establishment because of egregious ethical abuses such as the Tuskegee Experiment and contemporary racist actions and policies that perpetuate inequities,\textsuperscript{19-21} and the persistence of the anti-vaccination movement shows how the arguments of traditional science have not been compelling to some.\textsuperscript{22} Resistance to scientific evidence is important because it impedes behavioral change and health promotion in individuals and encourages opposition to public health and health care policies grounded in objective facts.

In the United States, much of the public has resisted evidence-based public health measures to contain COVID such as wearing masks and social distancing.\textsuperscript{23} A key underlying driver of this rejection of science, facts, and evidence is politicians manipulating the public to expand their power. Thus, clinicians and scientists working to reduce health disparities are confronted with two competing megatrends: increased public awareness and discussion of disparities present an urgent opportunity to advance health equity. However, persons in polarized societies increasingly believe, accept, and live different realities, spurred by politicians and media outlets seeking to expand their power and influence.

\textit{Trouble With the Curve (2012)}\textsuperscript{24}

\textit{Gus Lobel}: Anybody who uses computers doesn't know a damn thing about this game [baseball].

\textbf{Clinicians must integrate science, judgment, and leadership to advance health equity}

In \textit{Trouble With the Curve}, Clint Eastwood starred as curmudgeonly baseball scout Gus Lobel who complained that new age scouts over-relied on advanced statistical data analytics rather than their judgment to assess prospective major league players. Traditionally clinicians have been taught: Apply the principles of evidence-based, patient-centered care to all, and
your patients will do fine. Clinicians have also generally been told to stick to the scientific evidence and do not get involved in politics. For example, Dr. Anthony Fauci, Director of the National Institute of Allergy and Infectious Diseases, believes he has survived seven Republican and Democratic Presidential administrations partly because he is grounded in scientific evidence. In 2018, a debate erupted in the United States when the American College of Physicians advocated for gun control legislation.\textsuperscript{25} The National Rifle Association tweeted: "Someone should tell self-important anti-gun doctors to stay in their lane."\textsuperscript{26} Physicians pushed back hard stating that gun control policy was their lane (Twitter hashtag #ThisIsMyLane) given that guns led to trauma they had seen in their emergency departments. \textit{Annals of Internal Medicine} editor Dr. Christine Laine stated: "\textit{Annals of Internal Medicine} is not anti-gun; we are anti-bullet holes in people….And if we are biased, the bias is toward counseling our patients to reduce their risk of firearm injury and toward evidence-based solutions to the public health crisis that firearm injury has become."\textsuperscript{27}

Statements that objective decisions can be divorced from value judgments and that science can be separated from politics have appeared in other complex fields. For example, U.S. Chief Justice of the Supreme Court John Roberts famously said at his confirmation hearings that his job was to “call balls and strikes” rather than insert his political views into legal deliberations, as if a robotic camera calling balls and strikes in a baseball game could be used to interpret the law.\textsuperscript{28}

The days of only calling balls and strikes are over for clinicians, and probably never actually existed. Models of the clinician-patient relationship and shared decision making have covered a spectrum of styles ranging from the paternalistic “clinician knows best” model to the clinician as automaton merely spitting out facts and letting the patient decide the treatment.\textsuperscript{29} The reality is that most clinician-patient interactions incorporate shared decision
making with mutual give and take, and it is rare for clinicians to be truly unbiased and in equipoise when providing information. Clinicians often frame information in ways they think will lead the patient to choose the clinician’s preferred option for the patient. Similarly, the idea of calling balls and strikes for a topic as complicated as health equity is a fallacy to begin with. Expecting objective scientific information alone (“staying in your lane”) to change behavior of patients and organizations is wishful thinking, and in fact implicit biases by clinicians and health care administrators are a significant driver of health disparities and need to be confronted head on. Caring for diverse populations in 2021 requires knowledge of evidence, self-insight and true understanding of heterogeneous patients, ability to adapt messaging and approaches, and facility with systems change and advocacy.

*A Clockwork Orange (1971)*

**Alex DeLarge:** You needn’t take it any further, sir. You’ve proved to me that all this ultraviolence and killing is wrong, wrong, and terribly wrong. I’ve learned me lesson, sir. I’ve seen now what I’ve never seen before. I’m cured! Praise god!

**Dr. Brodsky:** You’re not cured yet, boy.

Now is the time to address health disparities, but no easy solution exists

2020 jolted the world, and many clinicians are more motivated than ever to advance health equity. However, no quick solution or magic bullet cure exists. In Stanley Kubrick’s *A Clockwork Orange*, incarcerated gangster Alex DeLarge opted for experimental aversion therapy to cure him of his violence so he would qualify for early discharge from prison in two weeks. Dr. Brodsky informed Alex that his early nauseated reactions to violent images was just the start on his road to recovery. Similarly, clinicians are likely to experience more discomfort addressing structural inequities and
racism before they feel better advancing health equity if they have honest discussions around racism. Clinicians working to advance health equity must simultaneously work in multiple areas: 1) Truly committing to advancing health equity and intentionally acting to reduce health disparities; 2) Creating a culture of equity by looking inwards for bias and outwards for the systemic biases built into their everyday work processes; 3) Implementing practical interventions to reduce disparities; 4) Considering their roles in addressing social determinants of health and influencing health care payment policy to advance health equity.

A key insight for advancing health equity reflected in the World Health Organization definition is that research must study both health and social factors impacting care, and address both individual and structural drivers of health. For example, from a medical perspective, individual clinicians can prescribe the appropriate medications to control glucose, blood pressure, and lipids for patients with diabetes. Clinicians can also help create systems of team care that provide patients counseling and assistance with lifestyle change around diet and physical activity, and close longitudinal follow-up and monitoring otherwise impossible during a few 15-minute appointments throughout the year with the primary care provider. Similarly on the social determinants side, clinicians can screen a patient with diabetes for food insecurity to help that individual patient, and health care organizations can partner with community organizations to address the structural problem of food deserts to help a community reduce their diabetes disparities. The National Institute on Minority Health and Health Disparities Research Framework indicates that research must span Levels of Influence (Individual, Interpersonal, Community, Societal) and Domains of Influence (Biological, Behavioral, Physical/Built Environment, Sociocultural Environment, Health Care System) to reduce health disparities. In 2021, the American Diabetes Association published a detailed scientific review in *Diabetes Care* of how social determinants of health impact diabetes outcomes and what interventions can reduce health disparities.
Silence of the Lambs (1991)\textsuperscript{35}

Dr. Hannibal Lecter: You know what you look like to me, with your good bag and your cheap shoes? You look like a rube. A well scrubbed, hustling rube with a little taste. Good nutrition's given you some length of bone, but you're not more than one generation from poor white trash, are you, Agent Starling? And that accent you've tried so desperately to shed: pure West Virginia. What is your father, dear? Is he a coal miner? Does he stink of the lamp?.....

Clarice Starling: You see a lot, Doctor. But are you strong enough to point that high-powered perception at yourself? What about it? Why don't you - why don't you look at yourself and write down what you see? Or maybe you're afraid to.

Look in the mirror and take the hard look inwards

It is not threatening to clinicians to look outwards and identify patient characteristics such as limited ability to understand health information and cultural beliefs as causes of health disparities. It is much more troubling to look in the mirror and clearly see our own implicit biases as root causes of disparities,\textsuperscript{5,36} and acknowledge structural biases in how we organize and deliver care in our clinics and hospitals,\textsuperscript{37} and allocate research funding and prioritize journal topics. If the racial/ethnic demographic profiles of persons with type 1 diabetes and sickle cell anemia were flipped, would the relative amounts of research funding for each remain unchanged?\textsuperscript{38} Why is our investment in and insurance coverage of new medications much more generous than interventions that address social factors impacting care?

The corollary of not recognizing our implicit biases is not fully understanding the lived experiences of others. I am currently completing a project that aims to improve shared decision making between clinicians and lesbian, gay, bisexual, transgender, and queer (LGBTQ) people of color across multiple conditions including diabetes.\textsuperscript{32} Analyzing the interviews and stories of over 200 persons, I realized
that I previously had limited knowledge of their complex intersectional challenges. \footnote{39} For example, too often transgender people of color face transphobia in heterosexual communities and racism in LGBTQ communities. \footnote{40} I similarly had only a basic understanding of the harsh effects of colonialism until I collaborated with Māori colleagues on a project comparing the approaches to health equity of Aotearoa/New Zealand and the United States. \footnote{41} While many of us are concerned and troubled by the COVID-19 pandemic, police brutality against BIPOC, and systemic racism, many of my African American and Latinx friends and colleagues are utterly exhausted, basically reliving trauma on a daily basis as racist examples come to light and are discussed in the media and routine conversations. \footnote{32,43} Thus, both our implicit biases and the limits of our own experiences impede our ability to work most effectively with diverse patients and understand the structural issues that drive health disparities.

Table 1 describes core knowledge, insights, and skills for advancing health equity that enable us to address personal implicit biases and systemic structural biases. \footnote{44} Active experiential training is critical for learners to safely assess their own personal beliefs and biases and understand the lived experiences of others. It is also important to recognize the bidirectional biases between clinician and patient, and gain self-insight into how others perceive you. Training should use mostly discussion, experiential exercises, and self-reflection rather than passive lecturing. A less explored area is how to identify and eliminate the structural biases built into our daily operating systems. I have previously described how systematic biases were unintentionally built into the way University of Chicago Medicine developed predictive machine learning algorithms to decrease hospital length of stay and how these biases were subsequently remedied. \footnote{45,46} Checks for biases should be standard operating procedure in the development, implementation, and monitoring of care delivery systems. Leadership requires honesty, truth telling, courage, vulnerability, boldness, and accountability.
Gallipoli (1981)\textsuperscript{47}

\textbf{Colonel Robinson:} Your orders are to attack and you'll do so immediately. The British at Suvla must be allowed to get ashore. Is that clear? You are to push on.

\textbf{Major Barton:} It's cold blooded murder.

\textbf{Colonel Robinson:} I said push on.

\textbf{Major Barton:} Yes sir.

Do not repeat what has not worked. Intentionally design interventions to reduce health disparities.

The classic Australian movie \textit{Gallipoli} starring a very young Mel Gibson, as well as a 2015 mini-series of the same title,\textsuperscript{48} depicts Australia’s ill-fated military engagement of Turkey at the Gallipoli Peninsula during World War I. The British General Ian Hamilton committed the folly of trying the same failed battle strategy again and again, at the cost of thousands of Australian soldiers’ lives. The most powerful scene in each film is when four waves of Australian soldiers are sequentially ordered to leave their trenches to attack the Turkish front lines. Each wave is wiped out within 30 seconds of going over the top by machine gun fire, killed by poor strategy and tactics, and underlying hubris. I wonder what it must have been like to be one of the young men ready to go over the top, knowing your death was imminent once the whistle blew. Every system is perfectly set up to get the outcome we see:

The secret sauce of successful disparities interventions is that they are tailored to address the underlying drivers of health disparities in a particular population of patients in their specific context.\textsuperscript{3,6,49} General patient centered approaches – “Just treat everyone with the same good care” –
are insufficient. Thus, off-the-shelf interventions might not work without adaptation to context. Too often systems of patient care have not been intentionally designed to reduce health disparities, nor have patients and their communities been meaningfully part of their development, implementation, and evaluation. Thus, perhaps not surprisingly many disparities have persisted. Several systematic reviews have been published of interventions to reduce disparities, including for diabetes.\textsuperscript{50-52} Disparities interventions have most commonly focused on changing the patient and have underexamined the health care delivery system and health policy as levers for reform, thus limiting improvement.\textsuperscript{53} Table 2 shows major themes of those reviews. Across multiple conditions, successful interventions include multifactorial interventions that address the underlying causes of the disparities, culturally tailored rather than generic interventions, and team-based care often with substantial roles for nurses. Effective interventions employ community health workers, involve families and communities in care plans, and engage patients in interactive experiential education rather than passive didactic teaching.\textsuperscript{3,54} Examples of successful interventions for reducing diabetes disparities include chronic care management with team-based care, population health management, quality improvement using performance data stratified by risk factors, culturally tailored patient self-management education, virtual health, health care-community partnerships, and place-based interventions that recognize the importance of the built and social environments. For many endocrinology conditions, few interventions have been tested to reduce health disparities.\textsuperscript{2} However, the general quality improvement literature for conditions such as osteoporosis have similarities to that of diabetes,\textsuperscript{55} and thus the lessons from interventions to reduce diabetes disparities and the wider disparities intervention literature are likely to apply.

Advancing health equity requires a process of individualization: Identifying disparities in our patient populations and settings, determining the causes of the disparities for our specific contexts, and tailoring solutions to meet these needs in collaboration with patients and communities.\textsuperscript{5,56} Menus of evidence-based interventions can be helpful, but must be adapted for our patients and contexts. Science and art are integrated together.
Goodfellas (1990)

Henry Hill: Whenever we needed money, we’d rob the airport. To us, it was better than Citibank.

Payment policy heavily influences the organization and delivery of health care. We need to design payment systems to support and incentivize advancing health equity.

Like any other private industry, health care needs to pay for itself to be sustainable. Reducing health disparities may save society money. However, the U.S. payment system, including most current value based payment and alternative payment models, does not have a sufficiently compelling business case to reduce disparities from the perspective of the individual clinician, clinic, hospital, and health insurance plan. Thus, not surprisingly inequities persist. Payment systems and broader social policy can be changed to address social determinants of health and advance health equity more effectively (Tables 3 and 4). Each clinician needs to consider what role they should have in impacting those broader social and payment factors. When I was a medical student, I did my obstetrics-gynecology rotation at a safety net hospital in the Central Valley of California and delivered 20 babies during my six-week assignment. While fun and rewarding, halfway through the rotation I realized that all of the new mothers I had delivered to that point were teenagers who would likely have difficult challenges ahead of them. I suddenly felt like a mechanical tool trying to patch a crack in a dam while a tsunami was about to crash unless the wider social issues surrounding teenage pregnancy were addressed. I did not want to feel like a helpless cog in a machine.
*Do the Right Thing (1989)*

**Da Mayor:** Doctor.

**Mookie:** C’mon, what? What?

**Da Mayor:** Always do the right thing.

**Mookie:** That’s it?

**Da Mayor:** That’s it.

**Mookie:** I got it. I’m gone.

All clinicians are advocates, whether for their patients, their communities, or for themselves

Some clinicians feel uncomfortable viewing themselves as advocates. They feel they must remain objective, politically nonpartisan, and based in science. The reality is all clinicians are advocates, and in fact the Accreditation Council for Graduate Medical Education requires residency programs to teach trainees skills in “advocating for quality patient care and optimal patient care systems.”

Advocacy exists along a spectrum with a comfortable landing spot for everyone (Table 5). I have yet to meet a clinician who did not think it was their professional and moral responsibility to advocate for their patients. Beyond individual patient care, clinicians can help transform their clinics and hospital systems to provide more equitable care. Clinicians can also encourage their health care organizations to become anchor institutions that treat their employees right with fair wages and benefits and expand economic opportunity in their communities by using local vendors.

Clinicians should also understand the basics of health care policy and decide if it feels right to them to advocate for reforms that advance health equity, whether as citizens, members of professional societies, or as clinicians who can influence their employer’s advocacy efforts. Clinicians can advocate for public policy reform to align payment with advancing health equity and addressing social determinants of health. They can educate the public about reducing disparities through talks and writing. They can support calls for social justice and human rights, and create constructive tension as advocated by Dr. Martin Luther King, Jr., to further the dialogue about anti-racism.
2021, the U.S. National Academies of Sciences, Engineering, and Medicine will publish a consensus report *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity* that identifies equity and social factors as the key issues of the decade. The report will call for health care organizations, payers, and policymakers to support nurses in their fundamental roles caring for patients, addressing social determinants of health, and advancing health equity.  

*Do the Right Thing (1989)*

Radio Raheem: Let me tell you the story of Right Hand, Left Hand. It’s a tale of good and evil.  

Hate: it was with this hand that Cane iced his brother. Love: these five fingers, they go straight to the soul of man. The right hand: the hand of love.

Advancing health equity is an inspiring moral imperative connected with professional values. Progress is dependent upon the good in our patients, the public, and ourselves.

When I see my patients in my general internal medicine clinic, I often have a third-year medical student with me. When I orient the student to the outpatient rotation on day 1, I explain that clinical medicine is storytelling. It is critical to listen to the patient’s story to get information and make diagnoses, and resist the temptation to immediately turn on the close-ended directed medical script. And good care fits health promotion and treatment into the patient’s overall life story. University of Chicago medical students are extremely bright, motivated, and socially skilled, yet most students take three or four clinic sessions before they become comfortable communicating effectively with patients and their families. Part of this adjustment period is the stress and challenge of a new rotation, clinical area, and preceptor. However, I think another key barrier is that students’ minds are cluttered with medical script, which of course is important but not at the expense of truly understanding the patient, their lived experience, and their world view. I now usually start my new patient visits by saying: “Hi, I’m Dr. Chin. How would you like to be called? I like to hear about my patients’ life stories. We’ll get to your medical issues in a moment. Please tell me about your life story, starting way back.”
Ultimately we must rely on people’s moral judgment and communal spirit for progress. If those are gone, we are in deep trouble. As part of their orientation of new employees, St. Mary’s and Clearwater Valley Hospital and Clinics in frontier Idaho have their new workers create a personal mission statement which is laminated and placed on a second card that is attached to their employee identification card. Chief Medical Officer Kelly McGrath’s card reads:

**Passion & Purpose**

**Health and Harmony**

*With Compassion, Gratitude,*

*Integrity and Joy,*

*I guide myself and others to treasure the beauty and goodness in our world,*

*and to discover and achieve the unique ways in which we are called to make it even better.*

Pediatricians discussing childhood vaccination with anti-vaccination parents, and clinicians explaining public health measures to prevent COVID-19 like wearing masks with libertarian patients have discovered that facts alone are insufficient to drive behavioral change. A culture of equity
encompasses understanding the essence of people and communities, communicating effectively with them,\textsuperscript{82-84} and possessing the technical skills of caring for diverse patients and building systems of care delivery that can reduce health disparities. I do not have easy solutions for how to bridge the partisan divide in world views and cultures. However, I believe that the public must perceive that policies and interventions are fair and benefit them. And a crucial initial step is effective communication that encompasses intense listening, active engagement, “Yes, and” ways of acknowledging the patient’s starting point on the way to an aspirational goal,\textsuperscript{85} true respect and curiosity to understand the lived experience, and a belief that the vast majority of people are inherently good and that we must appeal to people’s inner moral sense and yearning for justice and human rights.\textsuperscript{86} Ultimately such faith is what we have left in our armamentarium of caring for patients, and what inspires us to keep going as healers and humans.

\textit{Billy Elliot the Musical Live (2014)}\textsuperscript{87}

\textbf{Auditioner Woman:} Can I just ask you, Billy

\textit{What does it feel like when you're dancing?}

\textbf{Billy Elliott:} ….It's like that there's a music playing in your ear

And I'm listening, and I'm listening and then I disappear

And then I feel a change

Like a fire deep inside

Something bursting me wide open impossible to hide

And suddenly I'm flying, flying like a bird

Like electricity, electricity

Sparks inside of me

And I'm free I'm free.

Data Availability: Data sharing is not applicable to this article as no datasets were generated or analyzed during the current study.
References

1. Kurosawa A. Rashomon. Daiei Film, 1950. [Commoner and priest discuss different descriptions of potential rape of woman and murder of samurai as told by others].

2. Golden SH, Brown A, Cauley JA, et al. Health disparities in endocrine disorders: biological, clinical, and nonclinical factors--an Endocrine Society scientific statement. *J Clin Endocrinol Metab.* 2012;97(9):E1579-1639.

3. Chin MH, Clarke AR, Nocon RS, et al. A roadmap and best practices for organizations to reduce racial and ethnic disparities in health care. *J Gen Intern Med.* 2012;27(8):992-1000.

4. National Quality Forum. A Roadmap for Promoting Health Equity and Eliminating Disparities: The Four I’s for Health Equity. http://www.qualityforum.org/Disparities_Project.aspx. Published September 14, 2017. Accessed December 31, 2020.

5. Chin MH. Advancing health equity in patient safety: a reckoning, challenge and opportunity. *BMJ Qual Saf.* 2020. doi:10.1136/bmjqs-2020-012599.

6. National Academies of Sciences, Engineering, and Medicine. *Systems Practices for the Care of Socially At-risk Populations.* Washington DC: National Academies Press; 2016.

7. Alvidrez J, Castille D, Laude-Sharp M, Rosario A, Tabor D. The National Institute on Minority Health and Health Disparities Research Framework. *Am J Public Health.* 2019;109(S1):S16-S20.

8. Golden SH, Joseph JJ, Hill-Briggs F. Casting a Health Equity Lens on Endocrinology and Diabetes. *J Clin Endocrinol Metab.* 2021;25;106(4):e1909-e1916. doi: 10.1210/clinem/dgaa938.
9. Goff LM. Ethnicity and Type 2 diabetes in the UK. *Diabet Med.* 2019;36(8):927-938.

10. World Health Organization. Health systems: equity.
https://www.who.int/healthsystems/topics/equity/en/. Accessed December 18, 2020.

11. Bailey ZD, Feldman JM, Bassett MT. How Structural Racism Works - Racist Policies as a Root Cause of U.S. Racial Health Inequities. *N Engl J Med.* 2021;384(8):768-773. doi: 10.1056/NEJMs2025396.

12. Hu NY. Who Is the Parasite?-COVID-19 and Structural Narratives of Health Inequity. *JAMA.* 2020. doi:10.1001/jama.2020.21450.

13. Verhoeven P. Total Recall. TriStar Pictures, 1990. [Lori Quaid talking to her husband Douglas Quaid who has recurrent nightmares of dying on Mars].

14. Friedlaender GE, Friedlaender LK. Edvard Munch and The Scream: A Cry for Help. *Clin Orthop Relat Res.* 2018;476(2):200-202.

15. Metzl JM, Maybank A, De Maio F. Responding to the COVID-19 Pandemic: The Need for a Structurally Competent Health Care System. *JAMA.* 2020;324(3):231-232.

16. Peek ME, Simons RA, Parker WF, Ansell DA, Rogers SO, Edmonds BT. COVID-19 Among African Americans: An Action Plan for Mitigating Disparities. *Am J Public Health.* 2021;111(2):286-292. doi: 10.2105/AJPH.2020.305990.

17. Peeples L. What the data say about police brutality and racial bias — and which reforms might work. *Nature.* https://www.nature.com/articles/d41586-020-01846-z. Published June 19, 2020. Accessed March 31, 2021.

18. Krieger N. ENOUGH: COVID-19, Structural Racism, Police Brutality, Plutocracy, Climate Change-and Time for Health Justice, Democratic Governance, and an Equitable, Sustainable Future. *Am J Public Health.* 2020;110(11):1620-1623.

19. Gamble VN. Under the shadow of Tuskegee: African Americans and health care. *Am J Public Health.* 1997;87(11):1773-1778.
20. Feagin J, Bennefield Z. Systemic racism and U.S. health care. *Soc Sci Med.* 2014;103:7-14.

21. Bailey ZD, Krieger N, Agenor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. *Lancet.* 2017;389(10077):1453-1463.

22. Dube E, Vivion M, MacDonald NE. Vaccine hesitancy, vaccine refusal and the anti-vaccine movement: influence, impact and implications. *Expert Rev Vaccines.* 2015;14(1):99-117.

23. McKelvey T. Coronavirus: Why are Americans so angry about masks? https://www.bbc.com/news/world-us-canada-53477121. Published July 20, 2020. Accessed December 17, 2020.

24. Lorenz R. Trouble With the Curve. Warner Bros. Pictures, 2012. [Old-time baseball scout Gus Lobel complaining about new scouts who overly rely on data analytics to evaluate players in place of their judgment].

25. Butkus R, Doherty R, Bornstein SS, Health, Public Policy Committee of the American College of P. Reducing Firearm Injuries and Deaths in the United States: A Position Paper From the American College of Physicians. *Ann Intern Med.* 2018;169(10):704-707.

26. Wamsley L. After NRA Mocks Doctors, Physicians Reply: 'This Is Our Lane'. *NPR.* https://www.npr.org/2018/11/11/666762890/after-nra-mocks-doctors-physicians-reply-this-is-our-lane. Published November 11, 2018. Accessed December 18, 2020.

27. Haag M. Doctors Revolt After N.R.A. Tells Them to ‘Stay in Their Lane’ on Gun Policy. *New York Times.* https://www.nytimes.com/2018/11/13/us/nra-stay-in-your-lane-doctors.html. Published November 13, 2018. Accessed December 17, 2020.
28. Boylan J. Getting Beyond Balls and Strikes. *New York Times*. 
   https://www.nytimes.com/2018/10/23/opinion/getting-beyond-balls-and-strikes.html.
   Published October 23, 2018. Accessed December 17, 2020.

29. Emanuel EJ, Emanuel LL. Four models of the physician-patient relationship. *JAMA*. 
   1992;267(16):2221-2226.

30. Kubrick S. A Clockwork Orange. Warner Bros., 1971. [Gang member Alex DeLarge trying to convince Dr. Brodsky that aversion therapy has cured him of violence].

31. Peek ME, Vela MB, Chin MH. Practical Lessons for Teaching About Race and Racism: Successfully Leading Free, Frank, and Fearless Discussions. *Acad Med*. 
   2020;95(12S Addressing Harmful Bias and Eliminating Discrimination in Health Professions Learning Environments):S139-S144.

32. Chin MH, Lopez FY, Nathan AG, Cook SC. Improving Shared Decision Making with LGBT Racial and Ethnic Minority Patients. *J Gen Intern Med*. 2016;31(6):591-593.

33. Mendenhall E, Kohrt BA, Norris SA, Ndetei D, Prabhakaran D. Non-communicable disease syndemics: poverty, depression, and diabetes among low-income populations. *Lancet*. 2017;389(10072):951-963.

34. Hill-Briggs F, Adler NE, Berkowitz SA, et al. Social Determinants of Health and Diabetes: A Scientific Review. *Diabetes Care*. 2020;44(1):258-279. doi: 10.2337/dc20-0053.

35. Demme J. Silence of the Lambs. Orion Pictures, 1991. [Imprisoned murderer and psychiatrist Dr. Hannibal Lector and FBI trainee Clarice Starling sizing each other up].

36. Peek ME, Lopez FY, Williams HS, et al. Development of a Conceptual Framework for Understanding Shared Decision making Among African-American LGBT Patients and their Clinicians. *J Gen Intern Med*. 2016;31(6):677-687.
37. Metzl JM, Hansen H. Structural competency: theorizing a new medical engagement with stigma and inequality. *Soc Sci Med.* 2014;103:126-133.

38. Power-Hays A, McGann PT. When Actions Speak Louder Than Words - Racism and Sickle Cell Disease. *N Engl J Med.* 2020;383(20):1902-1903.

39. Bi S, Vela MB, Nathan AG, et al. Teaching Intersectionality of Sexual Orientation, Gender Identity, and Race/Ethnicity in a Health Disparities Course. *MedEdPORTAL.* 2020;16:10970.

40. Howard SD, Lee KL, Nathan AG, Wenger HC, Chin MH, Cook SC. Healthcare Experiences of Transgender People of Color. *J Gen Intern Med.* 2019;34(10):2068-2074.

41. Chin MH, King PT, Jones RG, et al. Lessons for achieving health equity comparing Aotearoa/New Zealand and the United States. *Health Policy.* 2018;122(8):837-853.

42. Machtinger EL, Davis KB, Kimberg LS, et al. From Treatment to Healing: Inquiry and Response to Recent and Past Trauma in Adult Health Care. *Womens Health Issues.* 2019;29(2):97-102.

43. Isom J. When antiracism becomes trauma. *Medium.* 2020. https://jisommdmph.medium.com/when-antiracism-becomes-trauma-77922b188ebb.

Published December 29, 2020. Accessed December 30, 2020.

44. Smith WR, Betancourt JR, Wynia MK, et al. Recommendations for teaching about racial and ethnic disparities in health and health care. *Ann Intern Med.* 2007;147(9):654-665.

45. Rajkomar A, Hardt M, Howell MD, Corrado G, Chin MH. Ensuring Fairness in Machine Learning to Advance Health Equity. *Ann Intern Med.* 2018;169(12):866-872.
46. Hardt M, Chin MH. It is Time for Bioethicists to Enter the Arena of Machine Learning Ethics. *Am J Bioeth.* 2020;20(11):18-20.

47. Weir P. *Gallipoli.* Paramount Pictures, 1981. [Colonel Robinson ordering Major Barton to launch suicide infantry attack during World War I trench warfare].

48. Ivin G. *Gallipoli.* Endemol Worldwide Distribution, 2015.

49. Green AR, Tan-McGrory A, Cervantes MC, Betancourt JR. Leveraging quality improvement to achieve equity in health care. *Jt Comm J Qual Patient Saf.* 2010;36(10):435-442.

50. Peek ME, Cargill A, Huang ES. Diabetes health disparities: a systematic review of health care interventions. *Med Care Res Rev.* 2007;64(5 Suppl):101S-156S.

51. Betancourt JR, Duong JV, Bondaryk MR. Strategies to reduce diabetes disparities: an update. *Curr Diab Rep.* 2012;12(6):762-768.

52. McElfish PA, Purvis RS, Esquivel MK, et al. Diabetes Disparities and Promising Interventions to Address Diabetes in Native Hawaiian and Pacific Islander Populations. *Curr Diab Rep.* 2019;19(5):19.

53. Clarke AR, Goddu AP, Nocon RS, et al. Thirty years of disparities intervention research: what are we doing to close racial and ethnic gaps in health care? *Med Care.* 2013;51(11):1020-1026.

54. Clarke AR VO, Goddu AP,McCullough KW, DeMeester D, Cook SC, El-Shamaa M, Chin MH. A Roadmap to Reduce Racial and Ethnic Disparities in Health Care. [https://www.solvingdisparities.org/sites/default/files/Roadmap_StrategyOverview_final_MSLrevisions_11-3-14%20%284%29.pdf](https://www.solvingdisparities.org/sites/default/files/Roadmap_StrategyOverview_final_MSLrevisions_11-3-14%20%284%29.pdf). Accessed December 18, 2020.

55. French S, Choden S, Schmajuk G. Quality Measures and Quality Improvement Initiatives in Osteoporosis-an Update. *Curr Osteoporos Rep.* 2019;17(6):491-509.
56. Chin MH, Goddu AP, Ferguson MJ, Peek ME. Expanding and sustaining integrated
health care-community efforts to reduce diabetes disparities. Health Promot Pract.
2014;15(2 Suppl):29S-39S.

57. Scorcese M. Goodfellas. Warner Bros., 1990. [Gangster Henry Hill saying it is easy to
rob the airport].

58. LaVeist TA, Gaskin D, Richard P. Estimating the economic burden of racial health
inequalities in the United States. Int J Health Serv. 2011;41(2):231-238.

59. National Academies of Sciences, Engineering, and Medicine. Chapter 6. Paying for
Equity in Health and Health Care. In: The Future of Nursing 2020-2030: Charting a
Path to Achieve Health Equity. Washington, D.C.: National Academies Press; 2021.

60. DeMeester RH, Xu LJ, Nocon RS, Cook SC, Ducas AM, Chin MH. Solving
disparities through payment and delivery system reform: A program to achieve health
equity. Health Aff (Millwood). 2017;36(6):1133-1139.

61. Chin MH. Creating the business case for achieving health equity. J Gen Intern Med.
2016;31(7):792-796.

62. Gunter KE PM, Tanumihardjo JP, Loehmer E, Cabrey E, Crespo R, Johnson T,
Yamashita BR, Schwartz EI, Sol C, Wilkinson C, Wilson J, Chin MH. Population
health innovations and payment to address social needs of patients and communities
with diabetes. The Milbank Quarterly. In press.

63. Shortell SM. Reflections on the Five Laws of Integrating Medical and Social
Services-21 Years Later. Milbank Q. 2020. doi:10.1111/1468-0009.12495.

64. Martinez-Cardoso A, Jang W, Baig AA. Moving Diabetes Upstream: the Social
Determinants of Diabetes Management and Control Among Immigrants in the US.
Curr Diab Rep. 2020;20(10):48.
65. Gibson L. Health care’s color lines: Marshall Chin aims to root out racial and ethnic inequality at the doctor’s office. University of Chicago Magazine. 2007;99(3). http://magazine.uchicago.edu/0712/investigations/care.shtml. Accessed January 1, 2021.

66. Chin MH. Addressing social needs and structural inequities to reduce health disparities: a call to action for Asian American and Pacific Islander Heritage Month. NIMHD Insights. (May 2, 2019). http://nimhd.blogs.govdelivery.com/2019/05/02/addressing-social-needs-and-structural-inequities-to-reduce-health-disparities-a-call-to-action-for-asian-american-heritage-month/#more-1089. Accessed January 1, 2021.

67. Sunderland N, Harris P, Johnstone K, Del Fabbro L, Kendall E. Exploring health promotion practitioners’ experiences of moral distress in Canada and Australia. Glob Health Promot. 2015;22(1):32-45.

68. Lee S. Do the Right Thing. Universal Pictures, 1989. [Da Mayor telling Mookie to always do the right thing].

69. Accreditation Council for Graduate Medical Education. ACGME Common Program Requirement (Residency).23. https://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/CPRResidency2020.pdf. Published February 3, 2020. Accessed December 18, 2020.

70. Tan JY, Baig AA, Chin MH. High Stakes for the Health of Sexual and Gender Minority Patients of Color. J Gen Intern Med. 2017;32(12):1390-1395.

71. Earnest MA, Wong SL, Federico SG. Perspective: Physician advocacy: what is it and how do we do it? Acad Med. 2010;85(1):63-67.
72. Press VG, Fritz CD, Vela MB. First year medical student attitudes about advocacy in medicine across multiple fields of discipline: analysis of reflective essays. *J Racial Ethn Health Disparities*. 2015;2(4):556-564.

73. Dobson S, Voyer S, Hubinette M, Regehr G. From the clinic to the community: the activities and abilities of effective health advocates. *Acad Med.* 2015;90(2):214-220.

74. Chen AH, Chin MH. What if the Role of Healthcare Was to Maximize Health? *J Gen Intern Med.* 2020;35(6):1884-1886.

75. Ubhayakar S, Capeless M, Owens R, Snorrason K, Zuckerman D. Anchor Mission Playbook In: Chicago, IL: Rush University Medical Center; 2017: https://www.rush.edu/sites/default/files/2020-09/rush-anchor-mission-playbook-091117%282%29.pdf. Accessed December 18, 2020.

76. Chin MH. Movement advocacy, personal relationships, and ending health care disparities. *J Natl Med Assoc.* 2017;109(1):33-35.

77. Chin M. The fundamental problem with the American Health Care Act. KevinMD.com. Web site. http://www.kevinmd.com/blog/2017/03/fundamental-problem-american-health-care-act.html. Published March 15, 2017. Accessed December 31, 2020.

78. Montez JK. US State Polarization, Policymaking Power, and Population Health. *Milbank Q.* 2020;98(4):1033-1052.

79. Lee S. Do the Right Thing. Universal Pictures, 1989. [Radio Raheem explaining his brass knuckles and their battle throughout life - left hand spelling “HATE” and right hand spelling “LOVE”].

80. Francis P. Pope Francis: A Crisis Reveals What Is in Our Hearts. *New York Times.* https://www.nytimes.com/2020/11/26/opinion/pope-francis-covid.html. Published November 26, 2020. Accessed December 17, 2020.
81. Perera K, Timms H, Heimans J. New power versus old: to beat antivaccination campaigners we need to learn from them—an essay by Kathryn Perera, Henry Timms, and Jeremy Heimans. *BMJ*. 2019;367:l6447.

82. Freimuth VS, Quinn SC. The contributions of health communication to eliminating health disparities. *Am J Public Health*. 2004;94(12):2053-2055.

83. Niederdeppe J, Bu QL, Borah P, Kindig DA, Robert SA. Message design strategies to raise public awareness of social determinants of health and population health disparities. *Milbank Q*. 2008;86(3):481-513.

84. Arora VM, Madison S, Simpson L. Addressing Medical Misinformation in the Patient-Clinician Relationship. *JAMA*. 2020;324(23):2367-2368.

85. Chin MH. Lessons From Improv Comedy to Reduce Health Disparities. *JAMA Intern Med*. 2020;180(1):5-6.

86. Brooks D. Nine Nonobvious Ways to Have Deeper Conversations. https://www.nytimes.com/2020/11/19/opinion/nine-nonobvious-ways-to-have-deeper-conversations.html?searchResultPosition=2. Published November 19, 2020. Accessed December 17, 2020.

87. Daldry S (stage), Sullivan B (live film). Billy Elliott the Musical Live. Universal Pictures, 2014. [Miner’s son Billy Elliott explaining what it feels like to dance at audition for Royal Ballet School in London].

88. Plews-Ogan ML, Bell TD, Townsend G, Canterbury RJ, Wilkes DS. Acting Wisely: Eliminating Negative Bias in Medical Education-Part 2: How Can We Do Better? *Acad Med*. 2020;95(12S Addressing Harmful Bias and Eliminating Discrimination in Health Professions Learning Environments):S16-S22.

89. Mateo CM, Williams DR. More Than Words: A Vision to Address Bias and Reduce Discrimination in the Health Professions Learning Environment. *Acad Med*. 
2020;95(12S Addressing Harmful Bias and Eliminating Discrimination in Health Professions Learning Environments):S169-S177.

90. Smith A, Foronda C. Promoting Cultural Humility in Nursing Education Through the Use of Ground Rules. Nurs Educ Perspect. 2019. doi:10.1097/01.NEP.0000000000000594. Accessed Jan 1, 2021.

91. Jones CP. Levels of racism: a theoretic framework and a gardener's tale. Am J Public Health. 2000;90(8):1212-1215.

92. Ogunwole SM, Golden SH. Social determinants of health and structural inequities - root causes of diabetes disparities. Diabetes Care. 2021;44:11-13.

93. Peek ME, Harmon SA, Scott SJ, et al. Culturally tailoring patient education and communication skills training to empower African-Americans with diabetes. Transl Behav Med. 2013;2(3):296-308.

94. Peek ME, Odoms-Young A, Quinn MT, Gorawara-Bhat R, Wilson SC, Chin MH. Racism in healthcare: Its relationship to shared decision-making and health disparities: a response to Bradby. Soc Sci Med. 2010;71(1):13-17.

95. Peek ME, Odoms-Young A, Quinn MT, Gorawara-Bhat R, Wilson SC, Chin MH. Race and shared decision-making: perspectives of African-Americans with diabetes. Soc Sci Med. 2010;71(1):1-9.

96. Kumagai AK, Lypson ML. Beyond cultural competence: critical consciousness, social justice, and multicultural education. Acad Med. 2009;84(6):782-787.

97. Dao DK, Goss AL, Hoekzema AS, et al. Integrating Theory, Content, and Method to Foster Critical Consciousness in Medical Students: A Comprehensive Model for Cultural Competence Training. Acad Med. 2017;92(3):335-344.
98. Crenshaw K. Demarginalizing the intersection of race and sex: A black feminist critique of antidiscrimination doctrine, feminist theory and antiracist politics. *University of Chicago Legal Forum*. 1989:140.

99. Ekmekci PE, Arda B. Enhancing John Rawls's Theory of Justice to Cover Health and Social Determinants of Health. *Acta Bioeth.* 2015;21(2):227-236.

100. Persad G, Peek ME, Emanuel EJ. Fairly Prioritizing Groups for Access to COVID-19 Vaccines. *JAMA*. 2020;324(16):1601-1602.

101. Bambra C, Smith KE, Pearce J. Scaling up: The politics of health and place. *Soc Sci Med.* 2019;232:36-42.

102. Ricci-Cabello I, Ruiz-Perez I, Nevot-Cordero A, Rodriguez-Barranco M, Sordo L, Goncalves DC. Health care interventions to improve the quality of diabetes care in African Americans: a systematic review and meta-analysis. *Diabetes Care*. 2013;36(3):760-768.

103. Little TV, Wang ML, Castro EM, Jimenez J, Rosal MC. Community health worker interventions for Latinos with type 2 diabetes: a systematic review of randomized controlled trials. *Curr Diab Rep.* 2014;14(12):558.

104. Golden SH, Maruthur N, Mathioudakis N, et al. The Case for Diabetes Population Health Improvement: Evidence-Based Programming for Population Outcomes in Diabetes. *Curr Diab Rep.* 2017;17(7):51.

105. Schmittdiel JA, Gopalan A, Lin MW, Banerjee S, Chau CV, Adams AS. Population Health Management for Diabetes: Health Care System-Level Approaches for Improving Quality and Addressing Disparities. *Curr Diab Rep.* 2017;17(5):31.

106. National Quality Forum. Risk Adjustment for Socioeconomic Status or Other Sociodemographic Factors. [http://www.qualityforum.org/Publications/2014/08/Risk_Adjustment_for_Socioecono](http://www.qualityforum.org/Publications/2014/08/Risk_Adjustment_for_Socioecono)
mic_Status_or_Other_Sociodemographic_Factors.aspx. Published August 15, 2014. Accessed December 31, 2020.

107. Haw JS, Narayan KM, Ali MK. Quality improvement in diabetes—successful in achieving better care with hopes for prevention. *Ann N Y Acad Sci.* 2015;1353:138-151.

108. Lepard MG, Joseph AL, Agne AA, Cherrington AL. Diabetes self-management interventions for adults with type 2 diabetes living in rural areas: a systematic literature review. *Curr Diab Rep.* 2015;15(6):608.

109. Hawkins JM. Type 2 Diabetes Self-Management in Non-Hispanic Black Men: a Current State of the Literature. *Curr Diab Rep.* 2019;19(3):10.

110. Agarwal S, Kanapka LG, Raymond JK, et al. Racial-Ethnic Inequity in Young Adults With Type 1 Diabetes. *J Clin Endocrinol Metab.* 2020;105(8).

111. Appuswamy AV, Desimone ME. Managing Diabetes in Hard to Reach Populations: A Review of Telehealth Interventions. *Curr Diab Rep.* 2020;20(7):28.

112. Lopez L, Tan-McGrory A, Horner G, Betancourt JR. Eliminating disparities among Latinos with type 2 diabetes: Effective eHealth strategies. *J Diabetes Complications.* 2016;30(3):554-560.

113. Mayberry LS, Lyles CR, Oldenburg B, Osborn CY, Parks M, Peek ME. mHealth Interventions for Disadvantaged and Vulnerable People with Type 2 Diabetes. *Curr Diab Rep.* 2019;19(12):148.

114. Nelson LA GR, Spieker A, Wallston KA, Elasy TA, Kripalani S, Gentry C, Bergner EM, LeStourgeon LM, Williamson SE, Mayberry LS,. Effects of a Tailored Text Messaging Intervention Among Diverse Adults With Type 2 Diabetes: Evidence From the 15-Month REACH Randomized Controlled Trial. *Diabetes Care.* 2021;44:26-34.
115. Fortmann AL, Gallo LC, Garcia MI, et al. Dulce Digital: An mHealth SMS-Based Intervention Improves Glycemic Control in Hispanics With Type 2 Diabetes. *Diabetes Care.* 2017;40(10):1349-1355.

116. Arora S, Peters AL, Burner E, Lam CN, Menchine M. Trial to examine text message-based mHealth in emergency department patients with diabetes (TExT-MED): a randomized controlled trial. *Ann Emerg Med.* 2014;63(6):745-754 e746.

117. Agarwal S, Schechter C, Gonzalez J, Long JA. Racial-Ethnic Disparities in Diabetes Technology Use Among Young Adults with Type 1 Diabetes. *Diabetes Technol Ther.* 2020.

118. Tung EL, Peek ME. Linking community resources in diabetes care: a role for technology? *Curr Diab Rep.* 2015;15(7):45.

119. Smalls BL, Walker RJ, Bonilha HS, Campbell JA, Egede LE. Community Interventions to Improve Glycemic Control in African Americans with Type 2 Diabetes: A Systemic Review. *Glob J Health Sci.* 2015;7(5):171-182.

120. Peek ME, Ferguson M, Bergeron N, Maltby D, Chin MH. Integrated community-healthcare diabetes interventions to reduce disparities. *Curr Diab Rep.* 2014;14(3):467.

121. Tung EL, Chin MH. Chapter 28. Demographic influences and health disparities in adults with diabetes. In: Delamater A MD, ed. *Behavioral Diabetes – Social Ecological Perspectives for Pediatric and Adult Populations.* New York: Springer; 2020.

122. Steve SL, Tung EL, Schlichtman JJ, Peek ME. Social Disorder in Adults with Type 2 Diabetes: Building on Race, Place, and Poverty. *Curr Diab Rep.* 2016;16(8):72.

123. Maduka RC, Gibson CE, Chiu AS, et al. Racial disparities in surgical outcomes for benign thyroid disease. *Am J Surg.* 2020;220(5):1219-1224.
124. Fieber J, Goodsell K, Kelz RR, et al. Racial Disparities in Primary Hyperparathyroidism. *World J Surg.* 2021;45:180-187.

125. Holoubek SA, Maxwell J, Fingeret AL. Racial Disparities of Adrenalectomy. *J Endocr Soc.* 2020;4(9):bvaa110.

126. World Health Organization. Social determinants of health. https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1. Accessed December 18, 2020.

127. Ludwig J, Sanbonmatsu L, Gennetian L, et al. Neighborhoods, obesity, and diabetes--a randomized social experiment. *N Engl J Med.* 2011;365(16):1509-1519.

128. Tsai J, Gelberg L, Rosenheck RA. Changes in Physical Health After Supported Housing: Results from the Collaborative Initiative to End Chronic Homelessness. *J Gen Intern Med.* 2019;34(9):1703-1708.

129. MacMillan F, George ES, Feng X, et al. Do Natural Experiments of Changes in Neighborhood Built Environment Impact Physical Activity and Diet? A Systematic Review. *Int J Environ Res Public Health.* 2018;15(2).

130. Mayne SL, Auchincloss AH, Michael YL. Impact of policy and built environment changes on obesity-related outcomes: a systematic review of naturally occurring experiments. *Obes Rev.* 2015;16(5):362-375.

131. Benton JS, Anderson J, Hunter RF, French DP. The effect of changing the built environment on physical activity: a quantitative review of the risk of bias in natural experiments. *Int J Behav Nutr Phys Act.* 2016;13(1):107.

132. Been JV, Nurmatov UB, Cox B, Nawrot TS, van Schayck CP, Sheikh A. Effect of smoke-free legislation on perinatal and child health: a systematic review and meta-analysis. *Lancet.* 2014;383(9928):1549-1560.
133. Bilal U, Auchincloss AH, Diez-Roux AV. Neighborhood Environments and Diabetes Risk and Control. *Curr Diab Rep.* 2018;18(9):62.

134. Seligman HK, Lyles C, Marshall MB, et al. A Pilot Food Bank Intervention Featuring Diabetes-Appropriate Food Improved Glycemic Control Among Clients In Three States. *Health Aff (Millwood).* 2015;34(11):1956-1963.

135. Seligman HK, Smith M, Rosenmoss S, Marshall MB, Waxman E. Comprehensive Diabetes Self-Management Support From Food Banks: A Randomized Controlled Trial. *Am J Public Health.* 2018;108(9):1227-1234.

136. Zhang YT, Mujahid MS, Laraia BA, et al. Association Between Neighborhood Supermarket Presence and Glycated Hemoglobin Levels Among Patients With Type 2 Diabetes Mellitus. *Am J Epidemiol.* 2017;185(12):1297-1303.

137. Richardson AS, Ghosh-Dastidar M, Beckman R, et al. Can the introduction of a full-service supermarket in a food desert improve residents' economic status and health? *Ann Epidemiol.* 2017;27(12):771-776.

138. Strom JL, Egede LE. The impact of social support on outcomes in adult patients with type 2 diabetes: a systematic review. *Curr Diab Rep.* 2012;12(6):769-781.

139. Fichtenberg C, Delva J, Minyard K, Gottlieb LM. Health And Human Services Integration: Generating Sustained Health And Equity Improvements. *Health Aff (Millwood).* 2020;39(4):567-573.

140. Alley DE, Asomugha CN, Conway PH, Sanghavi DM. Accountable health communities—addressing social needs through Medicare and Medicaid. *N Engl J Med.* 2016;374(1):8-11.

141. National Academies of Sciences, Engineering, and Medicine. Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nation's Health.
142. Patel S, Smithey A, Tuck K, McGinnis T. Leveraging value-based payment approaches to promote health equity: key strategies for health care payers. Advancing Health Equity: Leading Care, Payment, and Systems Transformation. 2021. https://www.chcs.org/resource/leveraging-value-based-payment-approaches-to-promote-health-equity-key-strategies-for-health-care-payers/. Accessed February 27, 2021.

143. Agarwal R, Liao JM, Gupta A, Navathe AS. The Impact Of Bundled Payment On Health Care Spending, Utilization, And Quality: A Systematic Review. *Health Aff (Millwood)*. 2020;39(1):50-57.

144. Kaufman BG, Spivack BS, Stearns SC, Song PH, O'Brien EC. Impact of Accountable Care Organizations on Utilization, Care, and Outcomes: A Systematic Review. *Med Care Res Rev*. 2019;76(3):255-290.

145. Clary A, Riley T. Braiding & blending funding streams to meet the health-related social needs of low-income persons: considerations for state health policymakers. https://www.nashp.org/wp-content/uploads/2016/02/Jean1.pdf. Published 2016. Accessed December 17, 2020.

146. Iovan S, Lantz PM, Shapiro S. "Pay for Success" Projects: Financing Interventions That Address Social Determinants of Health in 20 Countries. *Am J Public Health*. 2018;108(11):1473-1477.

147. Lantz PM, Rosenbaum S, Ku L, Iovan S. Pay For Success And Population Health: Early Results From Eleven Projects Reveal Challenges And Promise. *Health Aff (Millwood)*. 2016;35(11):2053-2061.
148. Nichols LM, Taylor LA. Social Determinants As Public Goods: A New Approach To Financing Key Investments In Healthy Communities. *Health Aff (Millwood).* 2018;37(8):1223-1230.

149. Nguyen V. What the Asian-American Coalition Can Teach the Democrats. *New York Times.* https://www.nytimes.com/2020/12/16/opinion/asian-american-democrats.html?searchResultPosition=1. Published December 16, 2020. Accessed December 17, 2020.

150. Goh HH, Bourne P. Ten simple rules for writing scientific op-ed articles. *PLoS Comput Biol.* 2020;16(9):e1008187.

151. Bik HM, Dove AD, Goldstein MC, et al. Ten simple rules for effective online outreach. *PLoS Comput Biol.* 2015;11(4):e1003906.

152. American Psychological Association. How to Work With the Media. https://www.apa.org/pubs/authors/working-with-media. Published June 2020. Accessed December 17, 2020.

153. Zipkin N. 33 Tips to Help You Ace a Media Interview (Infographic). *Entrepreneur.* https://www.entrepreneur.com/article/248016. Published July 5, 2015. Accessed December 17, 2020.

154. Bik HM, Goldstein MC. An introduction to social media for scientists. *PLoS Biol.* 2013;11(4):e1001535.

155. Shapiro M, Wray C, Arora V. White paper: Social media, podcasts, and blogs on a professional curriculum vitae. https://www.exploretthespaceshow.com/wp-content/uploads/2019/04/CV-White-Paper-Final-.pdf. Accessed December 18, 2020.

156. Society for Public Health Education. Guide to effectively educating state and local policymakers. https://www.sophe.org/resources/guide-effectively-educating-state-local-policymakers/. Accessed December 18, 2020.
Table 1. Core Knowledge, Insights, and Skills for Advancing Health Equity

Self-Insight

Implicit bias\textsuperscript{88,89}

Unconscious biases affect how we view and treat patients.

Bidirectional biases between clinician and patient\textsuperscript{36,85}

Clinicians’ biases towards patients and patients’ biases towards specific clinicians impact clinician-patient communication and relationships.

Cultural humility\textsuperscript{90}

Unending aspiration for awareness and reflection interacting with diverse individuals.

Race and racism\textsuperscript{20,21,31,37,91,92}

Racism occurs at multiple levels including: Intrapersonal (stigma and self-hatred from negative societal stereotypes), interpersonal (between people), and structural (systemic inequities built into societal structures).

Communication and Clinical Skills

Active listening\textsuperscript{85}

Identifying patient’s true concerns and issues. Understanding patient’s belief system.

Building relationships\textsuperscript{85}

Establishing trusting relationship based on mutual respect.

Patient empowerment\textsuperscript{93}
Supporting patient’s active participation and control of their care.

Shared decision making\textsuperscript{94,95}

Inform patient about medical condition and treatment options. Elicit patient preferences, discuss possibilities, and collaborate with patient to decide on management. Recognize heterogeneous ways patients communicate; for example, disempowered, distrusting patients who are uncomfortable disagreeing verbally with clinicians may express their preferences through nonadherence.

Communicating about disparities with the public, media, and policymakers\textsuperscript{82,83}

Trauma-informed care\textsuperscript{42}

Many patients, especially those with health disparities, have experienced trauma. Trauma-informed care inquires about trauma and emphasizes principles such as empathy, safety, support, collaboration, and empowerment.

History, Systems of Oppression, and Ethics

Historical perspective\textsuperscript{19-21,41}

Today’s reality has been shaped by the history of how we got here. Racism and colonialism have devastating longterm cultural and financial effects.

Critical consciousness and systems of oppression\textsuperscript{96,97}

Understanding and taking action against systems of oppression.
Intersectionality $^{30,98}$

Combination of intersecting systems of oppression that perpetuate discrimination and disadvantage based on factors such as race, class, sex, and gender identity.

Ethics and distributive justice $^{99,100}$

Understand ethical frameworks for advancing health equity including the socially just allocation of resources.

Roadmaps and Policies

Roadmap to Reduce Disparities $^{3,54}$

Process of reducing disparities through identifying disparities, doing root cause analysis of drivers of those disparities, designing and implementing interventions that address those drivers. The process requires a culture of equity and intentionality in actions to reduce disparities. The Roadmap applies to all health care organizations ranging from individual practices to large systems.

Health policy $^{41}$

Understanding organizational and governmental policies and regulations that impact access, quality, and cost of care, and possible reforms and alternatives.

Understanding policies that impact health $^{78,101}$
Table 2. Care Delivery Interventions to Reduce Disparities

**General Principles of Successful Interventions**\(^{3,54}\)

- Multifactorial interventions that address the different drivers of disparities
- Culturally tailored interventions rather than generic interventions
- Team-based care, often with substantial roles for nurses
- Community health workers, patient navigators, lay health workers including *promotoras*
- Involving families and communities
- Interactive, experiential patient education rather than passive didactic teaching

**Diabetes Interventions**\(^{50,102}\)

- Team-based care, care coordination, care management, interprofessional collaboration\(^{50}\)
- Community health workers, patient navigators, lay health workers including *promotoras*\(^{103}\)
Population health management\textsuperscript{104,105}

- Risk stratification by medical and social factors\textsuperscript{106}
- Tailoring of interventions to risk strata
- Outreach to persons who have not sought care

Quality improvement\textsuperscript{102,107}

Patient self-management education\textsuperscript{108-110}

Virtual health, ehealth, telehealth\textsuperscript{111}

mHealth\textsuperscript{112,113}

Text messaging\textsuperscript{114-116}

Technology\textsuperscript{110,117,118}

Electronic medical record-based interventions
Stratified performance data, audit and feedback

Community interventions\textsuperscript{119}

Community partnerships\textsuperscript{120}

Place-based interventions\textsuperscript{121,122}

**Examples From Other Endocrine Diseases**

Access to thyroid and parathyroid surgery and close follow-up\textsuperscript{123-125}
World Health Organization Definition of Social Determinants of Health: “Non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems.” Examples include: income and social protection, education, unemployment and job security, working life conditions, food insecurity, housing, environment, early childhood development, social support and inclusion.

Levels of Action

Individual patients: Screen patients for social needs and refer patients to community resources;
Develop feedback loops for information with community partners and coordinate care.

Systems: Partner with community and social service agencies/organizations to address the underlying social factors.

American Diabetes Association Social Determinants of Health Review for Diabetes

Neighborhood and Physical Environment

Housing

Moving to Opportunity: Moving from high-poverty to low-poverty census tract reduces risk of developing Hgb A1c > 6.5% and body mass index ≥ 35 kg/m².
Increased access to diabetes care.\textsuperscript{128}

Built environment

Food regulations improved food and obesity-related outcomes.\textsuperscript{129-131}

Improved infrastructure for active transport improved physical activity and obesity-related outcomes.\textsuperscript{129-131}

Toxic environmental exposures

Smoke-free legislation reduced diabetes risk.\textsuperscript{132}

Food environment\textsuperscript{133}

Food bank and pantry (Pre/Post study design: improved Hgb A1c;\textsuperscript{134} Randomized controlled trial: improved food security, food stability, fruit and vegetable intake\textsuperscript{135})

Supermarket loss worsened Hgb A1c.\textsuperscript{136}

Supermarket gain decreased food insecurity\textsuperscript{137}

Social Context

Social support improves Hgb A1c, blood pressure, and lipids\textsuperscript{138}

Linkages of Health Care and Community to Address Social Determinants of Health\textsuperscript{56}

Interventions and evaluations in process (e.g. – Accountable Health Communities)\textsuperscript{139,140}

National Academy of Medicine Integrating Social Care into the Delivery of Health Care: Moving Upstream to Improve the Nation’s Health (2019) report\textsuperscript{141}

5 A’s – Health Care System Activities that Strengthen Social Care Integration:

Awareness – Identify social risks and assets
Activities focused on individuals

**Adjustment** – Alter clinical care to address social barriers

**Assistance** – Connect patients with social care resources

Activities focused on communities

**Alignment** – Align health care systems with community social care assets

**Advocacy** – Advocate for policies that address health and social needs

Mechanisms

Care redesign

Workforce

Digital infrastructure

Financing

Research
Table 4. Payment Reform that Supports Care Transformation to Advance Health Equity

Paying for Care Transformation Infrastructure (See Table 2): Upfront Payments

Global payment / Capitation - Total care paid upfront with aggregate payment as opposed to piecemeal based on services provided

Bundled payment\textsuperscript{143} - Episode of care (e.g. – surgical bundle [pre-surgery, surgery, post-surgical follow-up]) paid for with lump sum payment

Per member per month – Health care organizations receive monthly payment based on number of beneficiaries under contract

Accountable care organizations\textsuperscript{144} – Providers held accountable for the quality of care and costs of an attributed population

Health and human services integration such as accountable health communities\textsuperscript{139,140} - Programs and payment mechanisms designed to integrate medical and social services

Incentivizing Care that Reduces Health Disparities

Performance metrics\textsuperscript{4}

- Reducing disparities between more and less advantaged populations
- Improvement in own performance
- Reaching absolute performance standard target level

Population health metrics that incorporate addressing social determinants of health (SDOH)

Process and structural measures that address SDOH (e.g. - team-based care, data infrastructure for SDOH, avoidable hospitalizations)
Paying for Medical and Social Services

Blending medical and social funds\textsuperscript{145} - Merge funding from multiple sources into one flexible pool

Braiding medical and social funds\textsuperscript{145} - Coordinate funding from multiple sources with each source keeping its own rules

Social impact bonds / Pay-for-success financing\textsuperscript{146,147} – Investors provide upfront capital that is paid back when target health and/or social outcomes are achieved

Social determinants as public goods\textsuperscript{148} – Payment (“Taxation”) based on relative benefits to each entity

Functional Payment Questions\textsuperscript{59,62,142}

Which patients and communities are the health care organization responsible for?

What costs are the health care organization accountable for (e.g. primary care, specialty care, hospital care, all care)?

How much money is at risk?

Do quality metrics need to be met to share in financial savings?

How will payment be adjusted for patients’ social risk so health care organizations do not have a disincentive to care for more vulnerable populations nor provide them suboptimal care?\textsuperscript{106}
Table 5. Suggestions for Advancing Health Equity Advocacy

Advocacy Skills to Develop\textsuperscript{70,73}

Public speaking

Writing concisely for lay audiences

Integrating storytelling and quantitative data

Leading

Organizing and mobilizing

Developing and fostering community partnerships

Coalition building\textsuperscript{149}

Navigating political systems and communicating with policymakers

Types of Advocacy

Individual patients

Advocating for patients within the system

Health care organizations

Improving systems of care

Identifying and eliminating biases in policies, regulations, and structures

Professional societies

Guidelines and policy statements
Coalition work across organizations

Public opinion

Op eds\textsuperscript{150}

Commentaries

Blogs\textsuperscript{151}

Lay talks

Community outreach

Working with the media\textsuperscript{152,153}

Social media\textsuperscript{154,155}

Public policy

Educating policymakers\textsuperscript{156}

In-person meetings

Written communication – correspondence and fact/recommendation sheets

Medical education

Teaching trainees about equity issues

Didactic lectures

Discussions on rounds: case-based and general

Role modeling