

The Clinical Examination and Socially At-Risk Populations

The Examination Matters for Health Disparities



Karly A. Murphy, MD^{a,*}, Alejandra Ellison-Barnes, MD^b,
Erica N. Johnson, MD^c, Lisa A. Cooper, MD, MPH^{d,e}

KEYWORDS

- Social determinants of health • Health care disparities • Patient-centered care
- Shared decision making • Cultural competency

KEY POINTS

- Disparities exist in health status, health outcomes, and health care delivery.
- The medical interview provides an opportunity for eliciting and addressing the social determinants of health.
- To build a relationship, clinicians should strive to individualize the patient, respond to emotion, and be aware of personal bias/values.
- In gathering data, clinicians may seek information about domains for social risk, and screening tools exist to facilitate this.
- Education, counseling, and decision making should take into account the individual patient's context, health literacy, and degree of activation.

Disclosure Statement: None.

^a Department of Medicine, Johns Hopkins Hospital, 2024 East Monument Street, Suite 2-500, Baltimore, MD 21287, USA; ^b Osler Medical Residency Training Program, Department of Medicine, Johns Hopkins Hospital, 1800 Orleans Street, Baltimore, MD 21287, USA; ^c Johns Hopkins Bayview Internal Medicine Residency, Department of Medicine, Division of Infectious Diseases, Johns Hopkins University School of Medicine, Johns Hopkins Bayview Medical Center, Mason F. Lord Building, Center Tower Suite 381, 5200 Eastern Avenue, Baltimore, MD 21224, USA; ^d Department of Medicine, Johns Hopkins Center for Health Equity, Johns Hopkins University School, 2024 East Monument Street, Suite 2-500, Baltimore, MD 21287, USA; ^e Department of Health, Behavior and Society, Johns Hopkins Bloomberg School of Public Health, Center for Health Equity, Johns Hopkins University, 2024 East Monument Street, Suite 2-500, Baltimore, MD 21287, USA

* Corresponding author.

E-mail address: kburke34@jhmi.edu

Med Clin N Am 102 (2018) 521–532
<https://doi.org/10.1016/j.mcna.2017.12.013>

medical.theclinics.com

0025-7125/18/© 2017 Elsevier Inc. All rights reserved.

INTRODUCTION

The population of the United States is increasingly diverse. Recent estimates show the US population is 26.4% nonwhite, 13.2% foreign-born, and 3.4% lesbian, gay, bisexual, transgender (LGBT).¹ Economic inequality is also increasing, with the top 1% of the population holding an estimated 42% of the nation's wealth.² Sociocultural differences between patients and clinicians can create communication challenges and increase the potential for disparities.^{3–5}

There are disparities in health status and health outcomes for many subpopulations.⁶ These differences span individual assessments of health status to maternal mortality to morbidity from a myriad of chronic diseases.³ Increasingly, it is recognized that disparities are driven not by differences in biology or individual patient characteristics, but rather by social determinants, or the conditions of the environments in which people live, including access to healthy food, education, employment, transportation, and housing options.^{3,4}

Just as disparities exist in health, there are also disparities in the care people receive when they interface with the health care system. The National Academy of Medicine's (formerly the Institute of Medicine) landmark report *Unequal Treatment* found that members of racial and ethnic minority groups did not always receive needed services at the same rates as whites, and that disparities existed across a range of diseases and persisted even after accounting for confounders such as insurance status and disease severity.⁷ Health disparities are also influenced by the social environment, including the quality of interpersonal care, in health care settings.^{7,8}

The health care workforce remains less diverse than the US population as a whole. Only about one-third of all physicians are women, and only 8.9% of physicians identify as black or African American, American Indian or Alaska Native, or Hispanic or Latino.⁹ Concordance on various dimensions between patients and clinicians, including both visible demographic characteristics and underlying attitudes and values, positively affects the relationship.⁸ Racial concordance between patients and providers has been linked to longer clinic visits, more positive patient affect, and greater ratings of patient satisfaction, adherence, and participatory decision making.^{10,11} However, such concordance is not always achievable owing to the systemic disparities in the workforce as well as local factors. Even in the best cases, there is rarely full concordance of all aspects of identity between patient and clinician.

The medical interview serves 4 functions: relationship building, data gathering, patient education and counseling, and facilitation and patient activation.¹² We describe how clinicians can uncover and address the social determinants of health within this conceptual framework during a patient–clinician encounter. It is also important for clinicians to consider their relationships with the broader communities in which they work and their relationships with other clinicians.

RELATIONSHIP BUILDING

Dimensions of Relationship-Centered Care

Many studies have reported reduced levels of trust among racial and ethnic minorities in physicians, researchers, and the health care system.^{8,13,14} Relationship-centered care considers the experiences, values, and perspectives of the patient and clinician, and how these intersect in the clinical encounter.^{7,15} To build a successful patient–clinician relationship, mutual respect, communication, knowing, affiliation/liking, trust, and partnership building must all be present.⁸ Respect for the individual underlies and enhances each of these dimensions, and communication is

the behavioral action through which the other dimensions are observed and measured.^{8,16} To know a person is to be familiar with them as an individual; to like a person is to find the person agreeable, whereas affiliation is to feel a shared sense of identity or purpose.⁸ As patients and clinicians know each other better, they build greater trust. Patients trust clinicians who demonstrate trustworthiness through their benevolence, integrity, and competence.¹⁷ Clinically strong partnerships reflect the unique background and opinion of each participant, enable shared decision making, and lead to greater patient satisfaction and engagement.^{8,14}

Behaviors of Relationship-Centered Care

Relationship building is a deliberate practice of behaviors that demonstrate emotional support, reassurance, and respect.^{12,15} Verbal behaviors explicitly invite an exchange of information. Nonverbal behaviors include a physician's friendliness, eye contact, posture, voice cadence and tone, and level of engagement with gestures and use of touch. The provider's affect, tone, degree of verbal dominance, amount of information provided, and time spent influence communication (**Box 1**).¹³

Racial disparities in communication behaviors have been observed.^{13,15–17} African American patients experience less affective behavior and tone and higher percentages of physician dominance compared with Caucasian patients.^{13,18} Time spent on mental health topics varies by physician race, and physician-demonstrated empathy varies by patient race.¹⁶ Similarly, African American patients experience less rapport building on topics ranging from mental health to chronic disease management to end-of-life care.^{13,17,19,20}

Attitudes Within Relationship-Centered Care

Relationship-centered care also recognizes that patients and clinicians enter into this relationship with opinions and attitudes. Attitudes, as an assumed way of thinking, can arise in response to a repeated stimulus, such as an object or situation. Attitudes become biases when the line of thinking becomes prejudiced against a person or a group.¹⁸

Medical training often emphasizes population risk factors and objectivity.^{13,19} However, these processes can reinforce stereotypes and promote bias.²¹ Implicit biases

Box 1

Strategies to build rapport and trust

- Individualize the patient.
 - "How would you like me to address you—as Mr/Mrs X, by your first name, or something else?"
 - "Who is important to you? What is important to you?"
- Respond to emotion.
 - Use empathic statements.
 - Legitimize and validate the patient's emotions.
 - Allow for periods of silence.
 - Invite questions.
- Self-reflection
 - Learn about your own implicit biases and values.
- Increase your engagement with the community you serve and/or with persons who differ from you with regard to social or cultural background.

are the unconscious thoughts and feelings, stemming from automatic evaluative processes based on memory and experience.^{20,22} Medical providers harbor unconscious biases at the same frequency as the general population.^{23–26} Implicit bias influences diagnosis, treatment recommendations, questions asked of the patient, and diagnostic tests ordered.²⁴

Bias manifests itself in behaviors that impede relationship building. Physicians with higher levels of general race bias on the implicit association test were more likely to talk slowly, have greater verbal dominance, and have less patient-centered dialogue.¹⁹ In addition, African American patients who interacted with a physician with a higher level of bias were more likely to report lower levels of trust, respect, and engagement in clinical decision making.¹⁹ Strategies to reduce implicit bias should focus on acknowledgment of bias and individualizing the patient.^{20,21,23,24} When clinicians know a patient as an individual, it brings them away from stereotyping and cognitive shortcuts and toward mutual partnership.⁸

DATA GATHERING

The history of present illness is the focus of the medical interview, an information exchange designed to lead to a diagnosis. Traditionally, physicians ask questions and receive information through a biomedical or disease-focused lens.²⁵ This knowledge should be expanded to integrate psychosocial domains, including lifestyle, social context, education, and the patient's perspective of their illness.²⁵ A pure biomedical line of questioning reflects a physician-dominant voice, which can be at the expense of the patient's perspective.¹¹

The National Academy of Science, Engineering, and Medicine has identified 5 domains for social risk: low socioeconomic position, disadvantaged neighborhood, social isolation, racial or ethnic minority status, and lesbian, gay, or bisexual orientation or transgender status. Limited health literacy has also been linked to health disparities; however, it is considered to be more modifiable than the 5 domains listed.^{3,26}

These social risk domains influence health outcomes on a personal and systemic level.^{4,27} Eliciting these social risk factors provides important data to better understand the patient as a person and to assess home environment, risk for nonadherence, and potential barriers to care and disease self-management. In the United States, adults living below the poverty line are 5 times more likely to report being in poor or fair health as compared with adults who claim incomes at least 4 times the federal poverty line.^{26,27} Housing instability, food insecurity, and exposure to violence have been shown to increase health care use.^{28,29} Low-income neighborhoods are more likely to have a higher density of fast food and convenience markets, increasing the risk of obesity. Residents who do not have easy access to such ready-made or processed food have lower rates of obesity.^{27,30} Lower homicide rates have been observed in neighborhoods in which residents self-rank high levels of mutual trust.^{31,32} Racism, particularly structural racism, is another driver of disparities.^{33,34}

Although the social history has always been included in clinical interviewing courses, many clinicians may not feel competent how to ask patients about social determinants of health or what to do once that information is obtained. Standardized screening tools have been developed by Health Leads, an organization founded to connect patients to community based resources, and the Centers for Medicare and Medicaid Services, but are not yet part of routine clinical assessment.^{28,35} Importantly, a positive screen to any of the questions is actionable.³⁵ Each survey encompasses 5 health-related social need domains: housing instability, food insecurity, transportation needs, utility needs, and interpersonal safety (Table 1). Health Leads also includes a

Table 1
Screening for social risk

Social Need Domain	Examples
Housing instability	Safety of housing, homelessness, inability to pay rent
Food insecurity	Access to nutritious food on a reliable basis
Utility needs	Shut off notices, phone use
Transportation	Access to affordable transportation for medical or public transport
Interpersonal safety	Intimate partner violence, elder abuse, child abuse, community
Financial resource strains	Social security or disability benefits, financial literacy/budgeting, stretching medications owing to cost, difficulty accessing benefits

question on financial resource strains.^{28,35} Other social need domains include child-care, education, employment, health behaviors (including smoking, alcohol and substance use), social isolation, and behavioral health. In addition to using screening tools, it is important for clinicians to increase their use of open-ended questions, allowing patients to tell their full stories and elaborate on their concerns. Psychiatrist and anthropologist Arthur Kleinman proposed the use of 8 questions to probe the patient's explanatory model of illness (**Box 2**).³⁶

PATIENT EDUCATION AND COUNSELING

When data gathering is expanded to include information about the social determinants of health, the scope of patient education and counseling broadens (**Box 3**). In addition to addressing the direct physical manifestation of illness and the immediate contributors, clinicians can address underlying barriers to achieving health. A clinician might recognize that a patient has limited food options or access to spaces to exercise in their neighborhood, or that the patient faces chronic stress from experiencing racism. Clinicians must become familiar with locally available resources and make referrals to community-based organizations that address social needs, ranging from substance abuse and mental health programs to support groups, to food pantries, job training services, and housing, utility, and prescription assistance programs.

Box 2 **Eliciting patient's explanatory model**

1. What do you think caused your problem?
2. Why do you think it started when it did?
3. What do you think your sickness does to you?
4. How severe is your sickness? Do you think it will last a long time, or will it be better soon in your opinion?
5. What are the chief problems your sickness has caused for you?
6. What do you fear most about your sickness?
7. What kind of treatment do you think you should receive?
8. What are the most important results you hope to get from treatment?

From Kleinman A, Eisenberg L, Good B. Culture, illness, and care: clinical lessons from anthropological and cross-cultural research. Ann Intern Med 1978;88(2):256; with permission.

Box 3**Training opportunities and educational resources***Patient education*

- Screen for health literacy using single items.
 - How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?
 - How confident are you filling out medical forms by yourself?
- Tailor education to individual patient goals.
- Consider language and literacy barriers.
- Use the teach-back technique.
- Learn about local resources.

Patient activation

- Engage in patient-centered decision making.
 - Paraphrase and interpret.
 - Ask the patient for opinions and suggestions.
 - Engage in brainstorming options.
 - Engage in negotiation and joint problem solving.
- Partner with the patient and the multidisciplinary team.

In providing education and counseling, it is important for clinicians to recall that 14% of adults in the United States cannot read above a basic level.³⁷ A similar percentage of the population has a less than basic health literacy.³⁷ Low health literacy is associated with poorer health outcomes, including more frequent hospitalizations and higher mortality rates.³² Health literacy affects health outcomes through effects on access and use of health care, the patient–provider relationship, and self-management.³¹ It is essential to assess literacy and health literacy levels to ensure understanding through the use of nonmedical language and illustrations.³⁸ There are now single-item screeners for health literacy (see **Box 3**).^{39,40} Clinicians should provide information in short, clear statements with opportunities for patients to ask questions. The teach-back technique is useful for confirming patient understanding.³⁸ Ideally, clinicians frame this technique as a check on their own skills (“I want to make sure I have explained things well”), so that if a patient has difficulty, it is understood to be a reflection of the clinician’s deficiency and not the patient’s.

Twenty-one percent of Americans sometimes or always speak a language other than English at home; many patients may prefer health information in that language.¹ Among a population of Spanish-speaking patients, when clinicians had higher self-rated language ability and cultural competence, patients were more likely to report better interpersonal processes of care.⁴¹ Similarly, when there was language discordance between patients and clinicians, communication was impeded even when the patients had relatively high health literacy and an interpreter was used.⁴² Similar techniques to those used for literacy barriers can be applied when there is a language barrier.

FACILITATION AND PATIENT ACTIVATION

To translate patient education and care plan formulation into improved health outcomes, patients should be involved in decision making and activated to manage their health (see **Box 3**). Patient-centered decision making involves adaptation of the best

evidence in medicine to the individual patient context.⁴³ Short-term health-related outcomes improve when patient context is taken into account in treatment planning.⁴³ Shared or participatory decision making is a model for clinical interactions in which patients more actively collaborate with their clinicians to formulate care plans that are in line with their preferences and values. Interventions to promote shared decision making increase patient satisfaction across all racial and ethnic groups and improve outcomes for at-risk patients.^{44,45}

The concepts of patient engagement, empowerment, and activation can be ambiguous and overlapping. *Engagement* typically refers to the acquisition of motivation to be involved in one's own health care and maintenance. *Empowerment* refers to increasing opportunity for involvement in the decision-making process. *Activation* describes gaining increasing knowledge and skills that allow patients to manage their own health and health care.^{46,47} Patients with greater activation are more likely to engage in healthy behaviors and obtain preventive care, and also have biometrics like body mass index and blood pressure within the normal range.⁴⁶ Chen and colleagues⁴⁸ propose a framework for the development of personalized interventions for the promotion of patient activation that are culturally sensitive. Specifically, patients are at the center of the model—with their personalized knowledge, self-determination, and confidence, and the triad of health providers, community, and health care delivery system encouraging them—resulting in improved health outcomes.⁴⁸

Interventions can increase patient activation in hospital and ambulatory care settings, and across chronic disease management, including for diabetes, hypertension, and mental illness.^{46,49} Successful interventions include skill development, problem solving, peer support, change of the social environment, and/or tailored coaching to the individual.⁴⁶ For example, patients from predominantly ethnic minority and low-income neighborhoods, who were coached to be more active participants in decisions about their care (and whose physicians were trained in patient-centered interviewing) achieved higher levels of participatory decision making and greater reductions in systolic blood pressure over 12 months compared with patients who were not coached and whose physicians did not receive training. Taking into account patient health literacy is important; in some cases, racial disparities in patient activation can be mediated entirely by health literacy.^{44,48}

TRAINING THE CLINICIAN

The National Academy of Medicine recommends training for all clinicians to understand and address the social determinants of health.^{5,50} This commitment is viewed as a professional responsibility.⁵¹ Training has focused on cultural competency, emphasizing communication, diagnosis, and management after consideration of a patient's background.⁵² More recently, there has been a move toward structural competency, which posits that clinicians be trained to understand how health inequalities are driven by forces at the institutional and societal levels, and to take these factors into account in managing patients.⁵³ The ecological model, an organizing framework for structural competence, reveals the multiple levels of influence on the health of individual patients (**Fig. 1**).⁵⁴

Learning can be accomplished through traditional didactic sessions or community-based activities.^{50,51,55} Training curricula educate health professionals on topics such as structural and cultural competency, community engagement principles, health literacy, and limited English proficiency that are relevant to clinicians (**Table 2**).^{56–63}



Fig. 1. Ecologic model of multilevel influences on health. (Adapted from Mueller M, Purnell TS, Mensah GA, et al. Reducing racial and ethnic disparities in hypertension prevention and control: what will it take to translate research into practice and policy? *Am J Hypertens* 2015;28(6):700; with permission.)

Community based-teaching can occur through service learning experiences or community-based participatory research.⁵⁰ Community-based participatory research is a collaboration between community members, organizations, and researchers with a focus on addressing social, structural, and physical inequity.⁶⁴ Guiding principles of community-based participatory research mirror those of relationship-centered care.^{8,64}

FUTURE CONSIDERATIONS

Francis Peabody famously wrote, “The secret of the care of the patient is in caring for the patient.” In our increasingly diverse and mobile society in which equity is a valued but challenging ideal, clinicians must develop a skillset that allows them to build relationships with patients who might differ from them, deftly gather psychosocial information in the clinical interview, provide relevant education and resources, and facilitate patient activation. In this article, we have introduced concepts and methods relevant to mastering these skills. Beyond the clinical encounter, however, we also encourage physicians to become engaged in efforts to promote equity at the systems level, whether within their institutions, communities, states, or nation, as the social determinants of health exert their influence long before the patient reaches the examination table or hospital bed.

Meetings and Trainings	Advancing Health Equity in the VA Healthcare system ⁵⁶ Applications of Innovative Methods in Health Equity Research ⁵⁷ Cross Cultural Health Care Program ⁶³
Curriculum and toolkits	A Train the Trainer Guide: Health Disparities Education ⁶¹ Caring with Compassion ⁵⁹ Health and Wellbeing for All ⁶⁰ AMA Health Disparities Toolkit ⁶²
Community-based teaching	Service Learning Community-based participatory research
Health outcomes database	County Health Rankings & Roadmaps ⁵⁵
Implicit association test	Project Implicit ²²

REFERENCES

1. United States Census Bureau. American FactFinder. Available at: <https://factfinder.census.gov/>. Accessed August 5, 2017.
2. Saez E, Zucman G. Wealth inequality in the United States since 1913: evidence from capitalized income tax data. *Q J Econ* 2016;131(2):519–78.
3. Steinwasch DM, Ayanian JZ, Baumgart C, et al. National Academies of Sciences, Engineering, and Medicine, Health and Medicine Division, Board on Health Care Services. Accounting for social risk factors in Medicare payment. Washington, DC: National Academies Press; 2017.
4. Board on Population Health and Public Health Practice Board on Health Care Services, Health and Medicine Division, National Academies of Sciences, Engineering, and Medicine. Systems practices for the care of socially at-risk populations. Washington, DC: National Academies Press; 2016.
5. Lane SD, Delva J, Fisher J, et al. National Academies of Sciences, Engineering, and Medicine. *Accounting for Social Risk Factors in Medicare Payment: Identifying Social Risk Factors*. Washington, DC: The National Academies Press; 2016. Available at: <https://doi.org/10.17226/21858>.
6. CDC - MMWR - MMWR publications - supplements: past volume. 2013. Available at: <https://www.cdc.gov/mmwr/>. Accessed August 5, 2017.
7. Smedley BD, Stith AY, Nelson AR, et al. Institute of Medicine. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Washington, DC: The National Academies Press; 2003. Available at: <https://doi.org/10.17226/10260>.
8. Cooper LA, Beach MC, Johnson RL, et al. Delving below the surface- understanding how race and ethnicity influence relationships in health care. *J Gen Intern Med* 2006;21(Suppl 1):21.
9. Distribution of physicians by gender. 2017. Available at: <http://www.kff.org/other/state-indicator/physicians-by-gender/>. Accessed August 5, 2017.
10. Cooper LA, Roter DL, Johnson RL, et al. Patient-centered communication, ratings of care, and concordance of patient and physician race. *Ann Intern Med* 2003;139(11):907–15.
11. Hall JA, Roter DL, Katz NR. Meta-analysis of correlates of provider behavior in medical encounters. *Med Care* 1988;26(7):657–75.
12. Roter D. The medical visit context of treatment decision-making and the therapeutic relationship. *Health Expect* 2000;3(1):17–25.
13. Boulware LE, Cooper LA, Ratner LE, et al. Race and trust in the health care system. *Public Health Rep* 2003;118(4):358–65.
14. Gordon HS, Street RL Jr, Sharf BF, et al. Racial differences in trust and lung cancer patients' perceptions of physician communication. *J Clin Oncol* 2006;24(6):904–9.
15. Beach M, Inui T. Relationship-centered care. *J Gen Intern Med* 2006;21(S1):3–8.
16. Spooner KK, Salemi JL, Salihu HM, et al. Disparities in perceived patient-provider communication quality in the United States: trends and correlates. *Patient Educ Couns* 2016;99(5):844–54.
17. Schnackenberg AK, Tomlinson EC. Organizational transparency. *J Manag* 2016;42(7):1784–810.
18. Merriam-Webster. Merriam-Webster web site. 2017. Available at: <https://www.merriam-webster.com/>. Accessed August 11, 2017.
19. Cooper LA, Roter DL, Carson KA, et al. The associations of clinicians' implicit attitudes about race with medical visit communication and patient ratings of interpersonal care. *Am J Public Health* 2012;102(5):979–87.

20. Devine PG, Forscher PS, Austin AJ, et al. Long-term reduction in implicit race bias: a prejudice habit-breaking intervention. *J Exp Soc Psychol* 2012;48(6):1267–78.
21. Hall WJ, Chapman MV, Lee KM, et al. Implicit racial/ethnic bias among health care professionals and its influence on health care outcomes: a systematic review. *Am J Public Health* 2015;105(12):60.
22. Education: overview. Project Implicit; 2011. Available at: <https://implicit.harvard.edu>. Accessed August 9, 2017.
23. Williams DR, Wyatt R. Racial bias in health care and health: challenges and opportunities. *JAMA* 2015;314(6):555–6.
24. Chapman EN, Kaatz A, Carnes M. Physicians and implicit bias: how doctors may unwittingly perpetuate health care disparities. *J Gen Intern Med* 2013;28(11):1504–10.
25. Roter D. The enduring and evolving nature of the patient-physician relationship. *Patient Educ Couns* 2000;39(1):5–15.
26. Braveman P, Egerter S, Williams DR. The social determinants of health: coming of age. *Annu Rev Public Health* 2011;32(1):381–98.
27. Woolf SH, Braveman P. Where health disparities begin: the role of social and economic determinants—and why current policies may make matters worse. *Health Aff (Millwood)* 2011;30(10):1852–9.
28. Billioux A, Verlander K, Anthony S, et al. Standardized screening for health-related social needs in clinical settings. The accountable health communities screening tool. Washington, DC: National Academy of Medicine; 2017.
29. Kushel MB, Vittinghoff E, Haas JS. Factors associated with the health care utilization of homeless persons. *JAMA* 2001;285(2):200–6.
30. Larson NI, Story MT, Nelson MC. Neighborhood environments: disparities in access to healthy foods in the U.S. *Am J Prev Med* 2009;36(1):74.
31. Paasche-Orlow MK, Wolf MS. The causal pathways linking health literacy to health outcomes. *Am J Health Behav* 2007;31(Suppl 1):19.
32. Berkman ND, Sheridan SL, Donahue KE, et al. Low health literacy and health outcomes: an updated systematic review. *Ann Intern Med* 2011;155(2):97–107.
33. Kozhimannil KB, Medina EM, Hardeman RR. Structural racism and supporting black lives - the role of health professionals. *N Engl J Med* 2016;375(22):2113.
34. Gee GC, Ford CL. Structural racism and health inequities: old issues, new directions. *Du Bois Rev* 2011;8(1):115–32.
35. Health leads. Social needs screening toolkit. 2017. Available at: <https://healthleadsusa.org/>. Accessed August 3, 2017.
36. Kleinman A, Eisenberg L, Good B. Culture, illness, and care: clinical lessons from anthropologic and cross-cultural research. *Ann Intern Med* 1978;88(2):251.
37. National assessment of adult literacy (NAAL). Available at: <https://nces.ed.gov/>. Accessed August 5, 2017.
38. Hersh L, Salzman B, Snyderman D. Health literacy in primary care practice. *Am Fam Physician* 2015;92(2):118–24. Available at: <https://www.aafp.org/afp/2015/0715/p118.html>. Accessed August 5, 2017.
39. Chew L, Griffin J, Partin M, et al. Validation of screening questions for limited health literacy in a large VA outpatient population. *J Gen Intern Med* 2008;23(5):561–6.
40. Morris NS, MacLean CD, Chew LD, et al. The single item literacy screener: evaluation of a brief instrument to identify limited reading ability. *BMC Fam Pract* 2006;7(1):21.

41. Fernandez A, Schillinger D, Grumbach K, et al. Physician language ability and cultural competence. An exploratory study of communication with Spanish-speaking patients. *J Gen Intern Med* 2004;19(2):167–74.
42. Sudore RL, Landefeld CS, Pérez-Stable EJ, et al. Unraveling the relationship between literacy, language proficiency, and patient-physician communication. *Patient Educ Couns* 2009;75(3):398–402.
43. Weiner SJ, Schwartz A, Sharma G, et al. Patient-centered decision making and health care outcomes: an observational study. *Ann Intern Med* 2013;158(8):573–9.
44. Cooper L, Roter D, Carson K, et al. A randomized trial to improve patient-centered care and hypertension control in underserved primary care patients. *J Gen Intern Med* 2011;26(11):1297–304.
45. Durand MA, Carpenter L, Dolan H, et al. Do interventions designed to support shared decision-making reduce health inequalities? A systematic review and meta-analysis. *PLoS One* 2014;9(4):e94670.
46. Hibbard JH, Greene J. What the evidence shows about patient activation: better health outcomes and care experiences; fewer data on costs. *Health Aff (Millwood)* 2013;32(2):207–14.
47. Fumagalli LP, Radaelli G, Lettieri E, et al. Patient empowerment and its neighbours: clarifying the boundaries and their mutual relationships. *Health Policy* 2015;119(3):384–94.
48. Chen J, Mullins CD, Novak P, et al. Personalized strategies to activate and empower patients in health care and reduce health disparities. *Health Educ Behav* 2016;43(1):25–34.
49. Lubetkin EI, Lu WH, Gold MR. Levels and correlates of patient activation in health center settings: building strategies for improving health outcomes. *J Health Care Poor Underserved* 2010;21(3):796–808.
50. Cené CW, Peek ME, Jacobs E, et al. Community-based teaching about health disparities: combining education, scholarship, and community service. *J Gen Intern Med* 2010;25(S2):130–5.
51. 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.
52. Cooper LA, Roter DL. Patient-provider Communication: the effect of race and ethnicity on process and outcomes of health care. In: Smedley BD, Stith AY, Nelson AR, editors. *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. Institute of Medicine (US) Committee on Understanding and Eliminating Racial and Ethnic Disparities in Health Care. Washington, DC: National Academies Press; 2009. p. 552–93.
53. Wear D, Zarconi J, Aultman JM, et al. Remembering Freddie Gray: medical education for social justice. *Acad Med* 2017;92(3):312–7.
54. Mueller M, Purnell TS, Mensah GA, et al. Reducing racial and ethnic disparities in hypertension prevention and control: what will it take to translate research into practice and policy? *Am J Hypertens* 2015;28(6):699–716.
55. Health is where we live. County health rankings & roadmaps web site. 2017. Available at: <http://www.countyhealthrankings.org/>. Accessed August 11, 2017.
56. Center for Health Equity Research and Promotion. Advancing health equity in the VA healthcare system. Washington, DC: U.S. Department of Veterans Affairs; 2016. Available at: <https://www.cherp.research.va.gov/>. Accessed August 11, 2017.

57. Johns Hopkins Bloomberg School of Public Health (JHSPH). Applications of innovative methods in health equity research. Johns Hopkins Bloomberg School of Public Health; Available at: <https://www.jhsph.edu/courses/>. Accessed August 10, 2017.
58. Golden S, Purnell T, Halbert J, et al. A community-engaged cardiovascular health disparities research training curriculum: implementation and preliminary outcomes. *Acad Med* 2014;89(10):1348–56.
59. Chick DA, Bigelow A, Rye H, et al. Caring with compassion. Ann Arbor (MI): University of Michigan Medical School; 2014. Available at: <https://caringwithcompassion.org/>. Accessed August 6, 2017.
60. CDC Foundation. Health and well-being for all. Health in a box resources. 2017. Available at: <http://www.cdcfoundation.org/>. Accessed August 8, 2017.
61. Society of General Internal Medicine. A train the trainer guide: health disparities education. SGIM resource library: education resources. Available at: <http://www.sгим.org/>. Accessed August 11, 2017.
62. AMA. Reducing disparities in health care. Chicago (IL): American Medical Association; 2017. Available at: www.ama-assn.org/. Accessed August 11, 2017.
63. CCHCP. Equity and inclusion programs. Seattle (WA): The Cross Cultural Health Care Program; 2017. Available at: <http://xculture.org/cultural-competency-programs/>. Accessed August 11, 2017.
64. Israel BA, Schulz AJ, Parker EA, et al. Review of community-based research: assessing partnership approaches to improve public health. *Annu Rev Public Health* 1998;19(1):173–202.