Implicit Bias Annotated Bibliography

Drewniak, D., et al. (2017). "Do attitudes and behavior of health care professionals exacerbate health care disparities among immigrant and ethnic minority groups? An integrative literature review." International Journal of Nursing Studies 70: 89-98.

AbstractObjectives Recent investigations of ethnicity related disparities in health care have focused on the contribution of providers' implicit biases. A significant effect on health care outcomes is suggested, but the results are mixed. The purpose of this integrative literature review is to provide an overview and synthesize the current empirical research on the potential influence of health care professionals' attitudes and behaviors towards ethnic minority patients on health care disparities. Design Integrative literature review. Data sources Four internet-based literature indexes – MedLine, PsychInfo, Sociological Abstracts and Web of Science – were searched for articles published between 1982 and 2012 discussing health care professionals' attitudes or behaviors towards ethnic minority patients. Review methods Thematic analysis was used to synthesize the relevant findings. Results We found 47 studies from 12 countries. Six potential barriers to health care for ethnic minorities were identified that may be related to health care professionals' attitudes or behaviors: Biases, stereotypes and prejudices; Language and communication barriers; Cultural misunderstandings; Gate-keeping; Statistical discrimination; Specific challenges of delivering care to undocumented migrants. Conclusions Data on health care professionals' attitudes or behaviors are both limited and inconsistent. We thus provide reflections on methods, conceptualization, interpretation and the importance of the geographical or socio-political settings of potential studies. More empirical data is needed, especially on health care professionals' attitudes or behaviors towards (irregular) migrant patients.
http://www.sciencedirect.com/science/article/pii/S0020748917300494

FitzGerald, C. and S. Hurst (2017). "Implicit bias in healthcare professionals: a systematic review." BMC Medical Ethics 18: 19.

BACKGROUND: Implicit biases involve associations outside conscious awareness that lead to a negative evaluation of a person on the basis of irrelevant characteristics such as race or gender. This review examines the evidence that healthcare professionals display implicit biases towards patients. METHODS: PubMed, PsychINFO, PsychARTICLE and CINAHL were searched for peer-reviewed articles published between 1st March 2003 and 31st March 2013. Two reviewers assessed the eligibility of the identified papers based on precise content and quality criteria. The references of eligible papers were examined to identify further eligible studies. RESULTS: Forty two articles were identified as eligible. Seventeen used an implicit measure (Implicit Association Test in fifteen and subliminal priming in two), to test the biases of healthcare professionals. Twenty five articles employed a between-subjects design, using vignettes to examine the influence of patient characteristics on healthcare professionals' attitudes, diagnoses, and treatment decisions. The second method was included although it does not isolate implicit attitudes because it is recognised by psychologists who specialise in implicit cognition as a way of detecting the possible presence of implicit bias. Twenty seven studies examined racial/ethnic biases; ten other biases were investigated, including gender, age and weight. Thirty five articles found evidence of implicit bias in healthcare professionals; all the studies that investigated correlations found a significant positive relationship between level of implicit bias and lower quality of care. DISCUSSION: The evidence indicates that healthcare professionals exhibit the same levels of implicit bias as the wider population. The interactions between multiple patient characteristics and between healthcare

professional and patient characteristics reveal the complexity of the phenomenon of implicit bias and its influence on clinician-patient interaction. The most convincing studies from our review are those that combine the IAT and a method measuring the quality of treatment in the actual world. Correlational evidence indicates that biases are likely to influence diagnosis and treatment decisions and levels of care in some circumstances and need to be further investigated. Our review also indicates that there may sometimes be a gap between the norm of impartiality and the extent to which it is embraced by healthcare professionals for some of the tested characteristics. CONCLUSIONS: Our findings highlight the need for the healthcare profession to address the role of implicit biases in disparities in healthcare. More research in actual care settings and a greater homogeneity in methods employed to test implicit biases in healthcare is needed. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5333436/

Gonzalez, C. M., et al. (2014). "Implicit Bias and Its Relation to Health Disparities: A Teaching Program and Survey of Medical Students." Teaching and Learning in Medicine 26(1): 64-71. http://www.tandfonline.com/doi/abs/10.1080/10401334.2013.857341

Jensen, N. M. (2014). "Physicians and Implicit Bias." Journal of General Internal Medicine 29(5): 707-707. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4000338/

Jilani, D., et al. (2015). "Pre-clinical versus clinical medical students' attitudes towards the poor in the United States." Journal of Educational Evaluation for Health Professions 12: 52.

This study assessed the poverty-related attitudes of pre-clinical medical students (first and second years) versus clinical medical students (third and fourth years). First through fourth year medical students voluntarily completed the Attitude Towards Poverty scale. First and second year students were classified together in the preclinical group and third and fourth year students together in the clinical group. A total of 297 students participated (67% response rate). Statistically significant differences were noted between pre-clinical and clinical students for scores on the subscales personal deficiency (P<0.001), stigma (P=0.023), and for total scores (P=0.016). Scores across these subscales and for total scores were all higher in the clinical group. The only subscale which did not show statistical significance between pre-clinical and clinical students was the structural perspective. Medical students in their clinical training have a less favorable attitude towards the poor than their preclinical counterparts. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4671180/

Maina, I. W., et al. 2017 "A decade of studying implicit racial/ethnic bias in healthcare providers using the implicit association test." Social Science & Medicine.

Disparities in the care and outcomes of US racial/ethnic minorities are well documented. Research suggests that provider bias plays a role in these disparities. The implicit association test enables measurement of implicit bias via tests of automatic associations between concepts. Hundreds of studies have examined implicit bias in various settings, but relatively few have been conducted in healthcare. The aim of this systematic review is to synthesize the current knowledge on the role of implicit bias in healthcare disparities. A comprehensive literature search of several databases between May 2015 and September 2016 identified 37 qualifying studies. Of these, 31 found evidence of pro-White or light-skin/anti-Black, Hispanic, American Indian or dark-skin bias among a variety of HCPs across multiple levels of training and disciplines. Fourteen studies examined the association between implicit bias and healthcare outcomes using clinical vignettes or simulated patients. Eight found no statistically significant association between implicit bias and patient care while six studies found that

higher implicit bias was associated with disparities in treatment recommendations, expectations of therapeutic bonds, pain management, and empathy. All seven studies that examined the impact of implicit provider bias on real-world patient-provider interaction found that providers with stronger implicit bias demonstrated poorer patient-provider communication. Two studies examined the effect of implicit bias on real-world clinical outcomes. One found an association and the other did not. Two studies tested interventions aimed at reducing bias, but only one found a post-intervention reduction in implicit bias. This review reveals a need for more research exploring implicit bias in real-world patient care, potential modifiers and confounders of the effect of implicit bias on care, and strategies aimed at reducing implicit bias and improving patient-provider communication. Future studies have the opportunity to build on this current body of research, and in doing so will enable us to achieve equity in healthcare and outcomes. http://www.sciencedirect.com/science/article/pii/S0277953617303039

Paradies, Y., et al. (2014). "A Systematic Review of the Extent and Measurement of Healthcare Provider Racism." Journal of General Internal Medicine 29(2): 364-387.

BACKGROUND: Although considered a key driver of racial disparities in healthcare, relatively little is known about the extent of interpersonal racism perpetrated by healthcare providers, nor is there a good understanding of how best to measure such racism. OBJECTIVES: This paper reviews worldwide evidence (from 1995 onwards) for racism among healthcare providers; as well as comparing existing measurement approaches to emerging best practice, it focuses on the assessment of interpersonal racism, rather than internalized or systemic/institutional racism. METHODS: The following databases and electronic journal collections were searched for articles published between 1995 and 2012: Medline, CINAHL, PsycInfo, Sociological Abstracts. Included studies were published empirical studies of any design measuring and/or reporting on healthcare provider racism in the English language. Data on study design and objectives; method of measurement, constructs measured, type of tool; study population and healthcare setting; country and language of study; and study outcomes were extracted from each study. RESULTS: The 37 studies included in this review were almost solely conducted in the U.S. and with physicians. Statistically significant evidence of racist beliefs, emotions or practices among healthcare providers in relation to minority groups was evident in 26 of these studies. Although a number of measurement approaches were utilized, a limited range of constructs was assessed. CONCLUSION: Despite burgeoning interest in racism as a contributor to racial disparities in healthcare, we still know little about the extent of healthcare provider racism or how best to measure it. Studies using more sophisticated approaches to assess healthcare provider racism are required to inform interventions aimed at reducing racial disparities in health.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3912280/

Phelan, S. M., et al. (2015). "The mixed impact of medical school on medical students' implicit and explicit weight bias." Medical education 49(10): 983-992.

BACKGROUND: Healthcare trainees demonstrate implicit (automatic, unconscious) and explicit (conscious) bias against people from stigmatized and marginalized social groups, which can negatively influence communication and decision-making. Medical schools are well positioned to intervene and reduce bias in new physicians. OBJECTIVE: To assess medical school factors that influence change in implicit and explicit bias against individuals from one stigmatized group, people with obesity. DESIGN: Prospective cohort study of medical students enrolled at 49 US medical schools randomly selected from all US medical schools within strata of public/private schools and region. PARTICIPANTS: 1,795 medical

students surveyed at the beginning of their 1(st) year and end of their 4(th) year. MEASUREMENT: Web-based surveys included measures of weight bias, and medical school experiences and climate. We compared bias change to changes in the general public over the same time period. We used linear mixed models to assess the impact of curriculum, contact with people who have obesity, and faculty role-modeling on weight bias change. RESULTS: Increased implicit and explicit biases were associated with less positive contact with patients who have obesity and more exposure to faculty role-modeling of discriminatory behavior or negative comments about patients with obesity. Increased implicit bias was associated with training in how to deal with difficult patients. On average, implicit weight bias decreased and explicit bias increased during medical school, over a period of time where implicit weight bias in the general public increased and explicit bias remained stable. CONCLUSION: Medical schools may reduce students' weight biases by increasing positive contact between students and patients with obesity, eliminating unprofessional role-modeling by faculty and residents, and altering curricula focused on treating difficult patients. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4755318/

Sabin, J. A. and A. G. Greenwald (2012). "The Influence of Implicit Bias on Treatment Recommendations for 4 Common Pediatric Conditions: Pain, Urinary Tract Infection, Attention Deficit Hyperactivity Disorder, and Asthma." American Journal of Public Health 102(5): 988-995.

Objectives. We examined the association between pediatricians' attitudes about race and treatment recommendations by patients' race. Methods. We conducted an online survey of academic pediatricians (n = 86). We used 3 Implicit Association Tests to measure implicit attitudes and stereotypes about race. Dependent variables were recommendations for pain management, urinary tract infections, attention deficit hyperactivity disorder, and asthma, measured by case vignettes. We used correlational analysis to assess associations among measures and hierarchical multiple regression to measure the interactive effect of the attitude measures and patients' race on treatment recommendations. Results. Pediatricians' implicit (unconscious) attitudes and stereotypes were associated with treatment recommendations. The association between unconscious bias and patient's race was statistically significant for prescribing a narcotic medication for pain following surgery. As pediatricians' implicit pro-White bias increased, prescribing narcotic medication decreased for African American patients but not for the White patients. Self-reported attitudes about race were associated with some treatment recommendations. Conclusions. Pediatricians' implicit attitudes about race affect pain management. There is a need to better understand the influence of physicians' unconscious beliefs about race on pain and other areas of care. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3483921/

Saha, S., et al. (2008). "Racial and Ethnic Disparities in the VA Health Care System: A Systematic Review." Journal of General Internal Medicine 23(5): 654-671.

OBJECTIVES: To better understand the causes of racial disparities in health care, we reviewed and synthesized existing evidence related to disparities in the "equal access" Veterans Affairs (VA) health care system. METHODS: We systematically reviewed and synthesized evidence from studies comparing health care utilization and quality by race within the VA. RESULTS: Racial disparities in the VA exist across a wide range of clinical areas and service types. Disparities appear most prevalent for medication adherence and surgery and other invasive procedures, processes that are likely to be affected by the quantity and quality of patient–provider communication, shared decision making, and patient participation. Studies indicate a variety of likely root causes of disparities including: racial differences in patients' medical knowledge and information sources, trust and skepticism, levels of

participation in health care interactions and decisions, and social support and resources; clinician judgment/bias; the racial/cultural milieu of health care settings; and differences in the quality of care at facilities attended by different racial groups. CONCLUSIONS: Existing evidence from the VA indicates several promising targets for interventions to reduce racial disparities in the quality of health care.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2324157/

Schiekirka, S., et al. (2014). "Assessment of two different types of bias affecting the results of outcome-based evaluation in undergraduate medical education." BMC Medical Education 14: 149-149.

BACKGROUND: Estimating learning outcome from comparative student self-ratings is a reliable and valid method to identify specific strengths and shortcomings in undergraduate medical curricula. However, requiring students to complete two evaluation forms (i.e. one before and one after teaching) might adversely affect response rates. Alternatively, students could be asked to rate their initial performance level retrospectively. This approach might threaten the validity of results due to response shift or effort justification bias. METHODS: Two consecutive cohorts of medical students enrolled in a six-week cardio-respiratory module were enrolled in this study. In both cohorts, performance gain was estimated for 33 specific learning objectives. In the first cohort, outcomes calculated from ratings provided before (pretest) and after (posttest) teaching were compared to outcomes derived from comparative self-ratings collected after teaching only (thentest and posttest). In the second cohort, only thentests and posttests were used to calculate outcomes, but data collection tools differed with regard to item presentation. In one group, thentest and posttest ratings were obtained sequentially on separate forms while in the other, both ratings were obtained simultaneously for each learning objective. RESULTS: Using thentest ratings to calculate performance gain produced slightly higher values than using true pretest ratings. Direct comparison of then- and posttest ratings also yielded slightly higher performance gain than sequential ratings, but this effect was negligibly small. CONCLUSIONS: Given the small effect sizes, using thentests appears to be equivalent to using true pretest ratings. Item presentation in the posttest does not significantly impact on results.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4112834/

van Ryn, M., et al. (2015). "Medical School Experiences Associated with Change in Implicit Racial Bias Among 3547 Students: A Medical Student CHANGES Study Report." Journal of General Internal Medicine 30(12): 1748-1756.

BACKGROUND: Physician implicit (unconscious, automatic) bias has been shown to contribute to racial disparities in medical care. The impact of medical education on implicit racial bias is unknown. OBJECTIVE: To examine the association between change in student implicit racial bias towards African Americans and student reports on their experiences with 1) formal curricula related to disparities in health and health care, cultural competence, and/or minority health; 2) informal curricula including racial climate and role model behavior; and 3) the amount and favorability of interracial contact during school. DESIGN: Prospective observational study involving Web-based questionnaires administered during first (2010) and last (2014) semesters of medical school. PARTICIPANTS: A total of 3547 students from a stratified random sample of 49 U.S. medical schools. MAIN OUTCOME(S) AND MEASURE(S): Change in implicit racial attitudes as assessed by the Black-White Implicit Association Test administered during the first semester and again during the last semester of medical school. KEY RESULTS: In multivariable modeling, having completed the Black-White Implicit Association Test during medical school remained a statistically significant predictor of decreased implicit racial bias (-5.34, $p \leq 0.001$:

mixed effects regression with random intercept across schools). Students' self-assessed skills regarding providing care to African American patients had a borderline association with decreased implicit racial bias (−2.18, p = 0.056). Having heard negative comments from attending physicians or residents about African American patients (3.17, p = 0.026) and having had unfavorable vs. very favorable contact with African American physicians (18.79, p = 0.003) were statistically significant predictors of increased implicit racial bias. CONCLUSIONS: Medical school experiences in all three domains were independently associated with change in student implicit racial attitudes. These findings are notable given that even small differences in implicit racial attitudes have been shown to affect behavior and that implicit attitudes are developed over a long period of repeated exposure and are difficult to change.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4636581/

Williams, R. L., et al. (2015). "Racial, Gender, and Socioeconomic Status Bias in Senior Medical Student Clinical Decision-Making: A National Survey." Journal of General Internal Medicine 30(6): 758-767.

BACKGROUND: Research suggests stereotyping by clinicians as one contributor to racial and gender-based health disparities. It is necessary to understand the origins of such biases before interventions can be developed to eliminate them. As a first step toward this understanding, we tested for the presence of bias in senior medical students. OBJECTIVE: The purpose of the study was to determine whether bias based on race, gender, or socioeconomic status influenced clinical decision-making among medical students. DESIGN: We surveyed seniors at 84 medical schools, who were required to choose between two clinically equivalent management options for a set of cardiac patient vignettes. We examined variations in student recommendations based on patient race, gender, and socioeconomic status. PARTICIPANTS: The study included senior medical students. MAIN MEASURES: We investigated the percentage of students selecting cardiac procedural options for vignette patients, analyzed by patient race, gender, and socioeconomic status. KEY RESULTS: Among 4,603 returned surveys, we found no evidence in the overall sample supporting racial or gender bias in student clinical decision-making. Students were slightly more likely to recommend cardiac procedural options for black (43.9 %) vs. white (42 %, p = .03) patients; there was no difference by patient gender. Patient socioeconomic status was the strongest predictor of student recommendations, with patients described as having the highest socioeconomic status most likely to receive procedural care recommendations (50.3 % vs. 43.2 % for those in the lowest socioeconomic status group, p < .001). Analysis by subgroup, however, showed significant regional geographic variation in the influence of patient race and gender on decision-making. Multilevel analysis showed that white female patients were least likely to receive procedural recommendations. CONCLUSIONS: In the sample as a whole, we found no evidence of racial or gender bias in student clinical decision-making. However, we did find evidence of bias with regard to the influence of patient socioeconomic status, geographic variations, and the influence of interactions between patient race and gender on student recommendations.
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4441663/