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THE IOM REPORT: TOO QUICK TO DIAGNOSE BIAS

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The IOM Report: Too Quick to Diagnose Bias

Abstract: The IOM report *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care* argues that medical studies document a systematic causal relationship between race and disparities in health inputs and outcomes among individuals of different races. We argue that the majority of studies are not powerful enough to establish a causal link since they do not sufficiently control for differences among patients that happen to correlate with race. We outline a powerful audit study that could isolate any effect of race on health care decisions. Lastly, we point out that even if there are race-based disparities in health inputs, evaluations of welfare and policy prescriptions should be based on health outcomes since the relationship between care and health is, at least in some cases, weak.

Keywords: Disparities; Discrimination; Health
JEL Classification: C1; C9; I1; J7; K3

Why is there unequal treatment between groups? The 2002 report from the Institute of Medicine, *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care,* makes the claim that negative attitudes – namely, "bias," "prejudice" and "discrimination" – on the part of non-minority physicians is one significant reason. This conclusion, in our view, is premature. In various sections of the IOM report, it appears to be regarded as an established fact, though, it remains very much a hypothetical factor.

This is not to say that clinical uncertainty and miscommunication within the doctor-patient relationship springing from racial differences might not exist; the possibility is quite plausible. The differences, theoretically, might even be based on invidious discrimination, though we doubt that. But their relative importance in determining health disparities remains unclear, especially when compared to factors such as access to care, quality of care and health literacy – which have undisputed and sizeable influence.[1] It is interesting to note that there are negligible disparities in military health settings, where access to care is excellent and quality and patient characteristics are relatively homogeneous.[2]

Words such as prejudice, bias and discrimination represent charged and divisive language that are needlessly provocative and potentially counter productive at this stage of our knowledge. This brief paper will discuss the kinds of evidence that would bestow a fuller picture of the dynamics involved in treatment disparities, allowing us to be more confident in our policy conclusions in this area.

First, let us consider the data presented in the IOM report. The committee looked mainly at peer reviewed retrospective studies. These studies often, but by no means only, revealed that minority patients were less likely to undergo complex procedures such as cardiac catheterization.

The most rigorous studies tried to control for as many clinical or economic variables that would explain the differential (e.g., co-morbid illness, supplemental insurance, patient interest in procedure). But because the majority of the studies were retrospective and relied upon chart review or large Medicare data bases, there were many variables that they could not capture such as details of clinical presentation, EKG subtleties, patient preferences and so on. Nor could doctors or patients be queried about their decision-making process. It is possible, too, that certain procedures and medications are used selectively because they are observed to yield differential outcomes by race. For example, black patients with chronic heart failure, on average, do not derive as much benefit with ACE-inhibitors as do whites.[3] A sizeable literature on pharmacogenomics suggests differential response to various medications and susceptibility to adverse effects by racial group.[4]

As the IOM report acknowledges, the more confounding variables identified, the smaller the differential between whites and minorities becomes, stating “almost all of the studies reviewed here find that as more potentially confounding variables are controlled, the magnitude of racial and ethnic disparities in care decreases.” [5]

In many cases whatever residual remains between care of whites and minorities may be so small as to not be worth worrying about, but in other situations what is left may be important, and it represents fertile ground for serious investigation. For example, new research published since the release of the IOM report suggests that the profit status of a patient’s health plan can significantly affect access to certain procedures. Schneider, et al (2004) find that Medicare beneficiaries enrolled in for-profit health plans are more likely to receive some high-cost operative procedures than similarly situated patients enrolled in not-for-profit health plans.[6]

If it were in fact the case that enrollment in for-profit vs. not-for-profit health plans is systematically related to race, then this research suggests that the IOM study suffers from an omitted variables bias. That is, it might be the case that the observed racial differential is an artifact of health plan type. Even if there were no discrimination at the physician decision level, a treatment differential would exist if minority patients were over-represented in not-for-profit health plans. On the other hand, if minority patients are under-represented in not-for-profit plans, the IOM differentials are biased downward.

Given that we are in the relatively early stages of research on race differences in medical treatments there are likely to be scores of other factors that the IOM neglected to take into account.[7] Many of those factors could significantly alter the eventual policy prescriptions needed to alleviate any problem. Proceeding before we have more information about the sources of any race-based differential almost guarantees that we will not fix a problem, if it exists, and leaves the very real possibility that we could worsen health outcomes or increase health costs for everyone in the process.

What kinds of investigations could illuminate the recesses of the treatment gap?

<u>Prospective studies</u>: We need more prospective studies that ask doctors and patients about how they make decisions to offer and to accept, respectively, particular treatments. Here is a vignette that shows just how difficult it is to interpret "bias" in medical records without an accompanying narrative from the clinician.

Kathy A. is a nurse practitioner in a public health clinic near Washington DC. She treats many young African American women. As part of the routine gynecological exam she asks them whether they had a PAP smear within the last two years. Typically, they say yes and Kathy A. does not perform one. When she started looking through records systematically, Kathy A. realized that many of the women who said they had a PAP smear never actually did. Soon she realized that many of the patients had mistaken a genital swab for STD for a PAP smear and has since kept this in mind during her history-taking (not to mention intensified her ongoing plea to the clinic director for computerized record-keeping).[8]

Conceivably, the innocent – though avoidable – mistake that Kathy A. made goes on daily in many inner city clinics. On chart review, Kathy A would appear to be a (white) clinician who was short-changing black patients by not offering a routine PAP smear. But to allege that her error was born out of "prejudice," "bias," or "discrimination" is misguided.

We must also consider the matter of rational inference. To be sure, physicians base their clinical decisions on experience and statistical norms. These are sometimes influenced by race (or sex or class for that matter). Furthermore, judgments that appear to be made on race may actually be made on other variables that simply correlate with race. Level of education is such a variable. As recent work by Dana Goldman and James Smith of RAND shows, adherence to treatment regimens in patients with HIV and diabetes varied greatly with level of patients' schooling; compliance, in turn, had a meaningful impact on patients' overall health status. [9]

In practical terms, if a physician thinks that a patient will not comply with triple therapy for HIV, he might either forgo the medication, give the patient a compliance "trial" wherein he must at least keep a second appointment in order to receive medication or prescribe it while monitoring the patient especially closely. To the extent that a physician does the former, he has acted unethically, in our view. In this respect, the IOM report serves a consciousness-raising function, prompting doctors to ask themselves whether they are giving every patient the opportunity to benefit from treatment. Journal clubs or weekly rounds are good venues for group discussion of the potential miscommunications, clinical discretion and problematic inferences that arise within the complexity of the doctor-patient relationship. [10] But to elevate the phenomenon of making clinical generalizations to the level of "potential civil-rights violations," as the IOM report does, is a large leap.

Audit studies: These are highly controlled, labor-intensive investigations in which only one variable – race, in this case – is altered. There are very few of them in the realm of health disparities research. In 1999 Kevin Schulman and colleagues at Georgetown University School of Medicine published an audit study in the New England Journal of Medicine. Briefly, the team made videos of black and white men and women who were actors playing patients with chest pain. About 700 physicians viewed these tapes and were asked whether they would refer to catheterization. The actor-patients were dressed in hospital gowns and described identical symptoms, had the same EKG findings and health insurance.

The Schulman article and Schulman himself erroneously stated that African Americans were 40 percent less likely to undergo catheterization and explicitly attributed the discrepancy to bias. The 40 percent estimate appeared to have been a misstatement based on an odds ratio finding, as demonstrated by a re-calculation of the Schulman data by a team at the White River Junction VA. [11] More accurately, white men, white women and black men were referred at the same rate of 90 percent. Black women were referred at a mean rate of 80 percent largely due to the low referral rate for a single black actress-patient – probably more a reflection of her acting than anything else. In all, the probability of referral for all black actors in the Schulman study was 7 percent lower than for whites, not 40 percent. As the White River Junction team wrote in the *New England Journal of Medicine* several months after publication of the Schulman article, "These exaggerations [of 40 percent] serve only to fuel anger and undermine the trust between physicians and their patients." [12]

Though there ended up being little difference in referral rates, the Schulman study galvanized the press. Perhaps the most egregious report appeared on the ABC news program *Nightline*. Here is how Ted Koppel introduced the segment: "Last night we told you how the town of Jasper, Texas, is coming to terms with being the place where a black man was dragged to his death behind a truck by an avowed racist. Tonight we are going to focus on [doctors] …who would be shocked to learn that what they do routinely fits quite easily into the category of racist behavior.” [13] Not surprising, the IOM report was also greeted with sensationalism: "Color-Blind Care Is Not What Minorities Are Getting," declared Newsday; "Fed Report Cites "Prejudice" in White, Minority Health Care Gap" the Boston Herald charged; "Separate and Unequal," said the St. Louis Post-Dispatch.[14]

To the extent that this kind of media coverage and, indeed, the language of the IOM report itself suggest that we know that important discrepancies exist and, further, we know that the causal mechanism is racism, further research in this area will be stunted. The dearth of sophisticated research in this area will necessarily limit the ability of health care professionals to provide all of their patients with optimal treatment and public health policy will also suffer.

Race comparison between doctors: A third genre of study valuable for understanding race-related factors in treatment are ones comparing care provided by white and black doctors to white and black patients. For example, evidence that doctors of both races treat black patients similarly say, in terms of rate of referral for catheterization – even if both refer black patients less often than they do white patients – would cause us to question a charge of bias. We are aware of only one study that has analyzed data with this question in mind.

Jersey Chen and colleagues at Yale University analyzed data from the Cooperative Cardiovascular Project. [15] They evaluated 40,000 Medicare beneficiaries hospitalized for acute myocardial infarction in 1994 and 1995, to determine whether differences between black patients and white patients in the use of cardiac catheterization within 60 days after acute myocardial infarction varied according to the race of their attending physician. Black patients had significantly lower rates of cardiac catheterization than white patients, regardless of whether their attending physician was white (rate of catheterization, 38.4 percent vs. 45.7 percent) or black (38.2 percent vs. 49.6 percent).[16] There was no significant interaction between the race of the patients and the race of the physicians in the use of cardiac catheterization. Moreover, the adjusted mortality rate among black patients was lower than or similar to that among white patients for up to three years after the infarction.

This mortality outcome raises an often-overlooked point: differences in care do not inevitably translate into differences in outcome. That is, they do not invariably mean worse care. Granted, lower mortality may not reflect lower morbidity – another outcome variable that must be examined – but it adds an important, practical dimension to research in treatment disparity. The results of the RAND Health Insurance Experiment, conducted between 1974 and 1982, are instructive here. By randomly assigning subjects to different insurance arrangements, the researchers were able to induce different levels of care and expenditures unrelated to the subjects' underlying health characteristics. By and large, the RAND research suggests that, in many contexts, increased treatment and expenditure levels do not translate into systematically better health.[17]

Chen's finding of equal mortality between blacks and whites (including more favorable mortality rates for blacks) is by no means unique. In fact, according to a Kaiser Family Foundation review of cardiac care studies the overwhelming majority found no mortality differences between races despite lower rates of procedures for blacks. [18] One possible explanation is that catheterization may be overused in white patients, meaning that the procedure is performed even when it will probably not benefit patients. [19]One reason for this may be so-called "defensive medicine."

In a 1996 study, economists Daniel Kessler and Mark McClellan examined all elderly Medicare beneficiaries treated for heart disease in 1984, 1987, and 1990 to determine whether the liability exposure a doctor faces (as indicated by various medical malpractice reforms) affects treatment decisions. They found that while patients treated in states with lower liability exposure received almost 10 percent less in terms of medical expenditures, there was no statistically significant difference in mortality or medical complications as a result of these differences.[20]

If doctors believe that white patients are systematically more likely to sue, or, perhaps, if the damages awarded or settlements reached in medical malpractice cases are significantly higher for white patients than minority patients in the event of an adverse outcome, doctors will have the incentive to engage in defensive medicine by expending more resources on white patients. [21] If Kessler and McClellan's results can be generalized, we would expect that white patients do not benefit, in terms of net health, from these additional health expenditures.

In any event, the important clinical issue suggested by comparable mortality findings is that we may be placing too much emphasis on tracking relative rates of specific forms of care when the critical issue is whether patients are getting <u>relevant</u> care. <u>Our proposal for a novel study</u> : What research design, then, would be needed to isolate discrimination in medicine? First, we must keep in mind that while demonstrating that doctors treat minority patients differently might be a necessary condition for proving the existence of systematic discrimination, it is far from sufficient. Sufficiency requires at least two additional findings. We must show that white doctors and minority doctors make systematically different decisions based on the patient's race and, for those differences to be significant, we must show that this differential care results in worse health outcomes for the minority patients.

To investigate the issue of differences between white and minority doctors, we propose audit studies along the lines of the Schulman study mentioned above but with an important modification. The sample of doctors on whom the audit is run should be composed of pairs of white and minority doctors who are matched by as many non-race characteristics (e.g., years of experience, location, etc.) as is possible. Once the matching is done, the audit participants can (and should) be assured of complete anonymity with the researcher only being able to tell whether the participant is white or a minority doctor. The matching allows the researchers to define a presumptively non-discriminatory control group from the minority doctors.

This control group is important to net out the possibility that there may be medical reasons why a conscientious doctor would choose to treat white patients and minority patients differently. Although the most sophisticated audit studies make efforts to normalize the observable characteristics (except for race, in this case) of the test cases, competent doctors will necessarily draw probabilistic inferences about the patients' unobservable characteristics based upon their own practice experience. [22] Assuming that white and minority doctors have similar estimates of the underlying distribution of unobservable characteristics, any differential treatment of white and minority patients found within the minority doctor control group should be treated as non-discriminatory. If the differential for white doctors exceeds that found in the control group, our confidence in drawing the inference of discrimination would increase.

However, even with such a finding, it might be premature to infer that significant discrimination exists. Despite a researcher's best efforts, it will not be possible to match white and minority doctors perfectly. To mitigate the error induced by imperfect matching, replication of the audit results is important. Also, to answer the question of whether differential treatment translates into worse health outcomes for minority patients, researchers should use the audit results to inform the construction of prospective studies that focus on health outputs rather than health inputs. If both the audit studies and the prospective trials indicate that minority patients fare worse than their white counterparts, the inference of discrimination would be unavoidable. In the absence of such a rigorous research design, we are left with mere conjecture that does little to inform public health policy.

Thus, in order to speak in a more informed way about clinical uncertainty we require more of the kinds of studies just described – detailed prospective studies, audits, black-white doctor comparisons, and outcome analyses. Currently, there are very few. Yet, many medical schools, health philanthropies, policymakers and politicians are proceeding as if "bias" were an established fact. In other words, they consider part of the solution to the disparities problem to be located in the arena of race politics. This has led to some highly questionable developments – developments that the IOM report endorses.

For example, there is now a veritable “cultural competence training” industry that, among other activities, has been known to conduct patronizing racial sensitivity training for doctors.[23] This is not to be confused with the need to learn local anthropology of unacculturated populations, a vital necessity for physicians who work with cultural minorities. In addition, medical schools are forthright in pursuing racial preferences wherein academic standards and performance are clearly lowered in the service of building a more racially diverse workforce. [24] The main rationale for racial preferences is to funnel minority doctors into minority areas (based on the unfounded premise that minority patients overwhelmingly prefer a same-race doctor).[25] Yet a more fair and clinically responsible way to get good doctors into poor neighborhoods is to offer financial incentives. A third alternative for solving the disparity problem is the identification of civil rights violations under Title VI. In some cases, this activity might include bureaucrats parsing clinical decisions and second-guessing physicians. [26]

In our view, these race-based remedies pose a divisive distraction from more constructive solutions -- solutions that the IOM, itself, promotes as well. These include the expansion of community health clinics (with evening hours and a responsive hot line for patients to call with acute medical questions) as well as grassroots outreach efforts to minority communities. [27]These efforts, underway across the country, are designed to enhance knowledge about common health problems and healthy lifestyle; perform screenings (e.g., for hypertension, breast cancer); and educate about organ donation. Community-based interventions draw on local members as educators, translators and nursing/physician assistants. To the extent that many minority patients are distrustful of the more conventional medical establishment – a claim frequently made by the proponents of racial preferences in medical schools – receiving care from and interacting with culturally compatible staff will be conducive to compliance with care. Doubtless, for patients who cannot easily travel to major hospital centers (a definite problem for people with disabilities and inflexible working hours), local clinics will improve access significantly.

Understanding health disparities as an economic problem tied to issues of access to quality care and health literacy, rather than a civil rights problem borne of overt or unconscious bias on the part of physicians, is a more efficient and rational way to address the problem of differential health outcomes.

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[21] This could result from the higher average incomes of the white population which would translate into higher judgments for lost wages.

[22] In the economics literature on employment discrimination, Nobel Laureate James Heckman has pointed out that the inability to control for unobservable characteristics in audit studies is the major impediment to drawing inferences about discrimination from audit study results. Implicit in discriminatory inferences from audit studies is the assumption that the distribution of unobservable characteristics is independent of

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race. If that assumption does not hold, employers (or doctors, in the present case) will rationally make decisions based upon their knowledge of the underlying distributions of important unobservable characteristics. In the medical context, ignoring information about the underlying distributions will necessarily lead to worse health outcomes for minority patients, on average. See James J. Heckman (1998), "Detecting Discrimination," *Journal of Economic Perspectives*, 12(2): 101-116.

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