Abstract: Evidence Based Medicine, Measurement, and Implicit Bias

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The term "evidence-based medicine" first appeared in a paper by Gordan Guyatt in 1991, but basing clinical decisions on evidence is hardly a new strategy in Western medicine. Crudely speaking, EBM can be viewed as the explicit and judicious use of "best evidence" in a clinical setting (e.g., Sackett 1996). Much, but not all, of this "best" evidence is gathered through measurements in large-scale clinical trials. The evidence obtained translates into best practices and clinical guidelines, which are then implemented by all evidence-based practitioners to try to standardize clinical decisions. This approach is designed to minimize intuition and guesswork in medical practice, which practitioners of EBM assume to be harmful. EBM ultimately dictates that wherever possible, clinical decisions concerning interventions (or lack thereof) should primarily be made in accordance with the clinical guidelines set out considering the results of RCTs and observational studies, that is, in accordance with the measurements made and interpreted by epidemiologists.

   Implicit biases are unconscious prejudices that affect behavior such that one (unconsciously) discriminates against members of a socially stigmatized group (Brownstein 2015). Although an individual may (and as far as they're concerned, honestly) report not to be prejudiced against a particular ethnic group, socioeconomic group, or sex, examination of that individual's behavior often indicates otherwise since social attitudes and stereotypes naturally embed unconscious biases. Studies have convincingly shown that implicit biases play a significant role in clinical decisions. Green et al. (2007), for example, conducted a study in the United States comparing the thrombolysis decisions for black patients and white patients with acute coronary syndromes. The physicians showed a significant anti-black implicit bias, and further, although their explicit biases did not affect their decisions to treat patients, "as the degree of anti-black bias on the race preference [computer-based implicit association test] increased, recommendations for thrombolysis for black patients decreased" (Green et al. 2007, 1235). Similarly, Schulman et al. (1999) showed that a white female in the United States is far more likely to be recommended for cardiac catheterization by her physician than a black female with the same symptoms. In the United States, at least, the quality of health care received by ethnic minorities thus seems to be significantly lower than that received by their white compatriots (Stepanikova 2012). On the face of it, this can be put down primarily to the implicit biases of clinicians.

   When a practitioner favours patient-centered care, her clinical decisions are prima facie particularly vulnerable to implicit bias. However, EBM is explicitly designed to encourage (where appropriate) consistency in diagnosis, prognosis, and treatment. On the assumption that the necessary trials have taken place, physicians practicing EBM will (in principle) treat patients with the same symptoms in the same way; that is, assuming (i) that the intervention(s) necessary to treat the condition associated with a set of symptoms has/have been identified by clinical trials and (ii) that these trials have informed the clinical guidelines that evidence-based practitioners are bound to follow, all clinical decisions are standardized such that implicit biases play little or no role in clinical decision making. In principle, then, if all clinicians practiced EBM, situations such as those identified by Schulman et al (1999)

would not arise. In this paper I show that the paradigm shift in medicine toward measurement, is a shift away from the impact of implicit bias in clinical decision making.