Letter to the Editor

Measures of discriminatory accuracy and categorizations in public health: a response to Allan Krasnik’s editorial

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In a recent Editorial,¹ Allan Krasnik gives an excellent commentary to our article questioning the discriminatory accuracy of broad migrant categories in Public Health.² Krasnik embraces our opinions and also arrives to a balanced approach for future research. He agrees with us on the perils of using measures of association (e.g. odds ratios, relative risks and risk differences) alone especially when they are based on inappropriately specified categorizations, like many ethnic categorizations are. Besides concerns on causal validity, measures of association do not inform on the individual heterogeneity of responses around the average and, thereby, provide insufficient information on the distribution of the health problem in the population, which is fundamental for planning appropriate public health intervention. We also agree on the need of an intersectional approach that investigates the interaction of multiple axes of social differentiation and, thereby, help us to understand individual heterogeneity. From this perspective, the combination of intersectional analysis with measures of discriminatory accuracy is a strong epidemiological instrument.

Krasnik also distinguished a ‘population perspective’ (separated from the individual one) that can be investigated by studying differences between averages (risk difference). We think, however, this population perspective needs a multilevel approach that integrates individual and population levels of analysis rather than separates them. In multilevel analysis, individual heterogeneity is decomposed into both a population and an individual level. In this way, we can analyze between-population and also within-population components of individual heterogeneity. From this multilevel perspective population effects are not the differences between-population averages but rather the share of the individual heterogeneity that exists at the population level³ as we have illustrated in previous publications.⁴,⁵

The principle of *primum non nocere* is a corner stone in medical and public health interventions and, based on this principle, treatments or public health policies exclusively based on measures of association do not appear reliable. If the discriminatory accuracy of common categorizations (e.g. ethnic groups or exposure to a risk factor) is low, what happens with the recommendations made in public health epidemiology? Are we alarming the public about risks that may be harmless for many people exposed? Are we stigmatizing groups of people? Are there problems of inefficiency and unnecessary medicalization? What are the ethical implications?

We share Alan Krasnik’s concern on the need of epidemiological analysis that includes and discusses different epidemiological measures, and we agree that decision making is often a complex process that needs to balance the relevance of the problem with the potential benefits and harms. However, beyond this reasoning, we also need recommendations on concrete actions to confront the problem. Specifically, we think time is ripe for an epidemiological approach that systematically report on the discriminative accuracy and heterogeneity of individual effects, not just averages. We think that measures of discriminatory accuracy should always be presented together with measures of association to support informed decisions. Publication guidelines should demand measures of discriminatory accuracy as a requisite for publication and we hope the Journal consider this idea.

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References