The National Institute of Mental Health (NIMH) initiated in 2010 the Research Domain Criteria (RDoC) project to facilitate translation of modern molecular biology, neuroscience, and behavioral approaches in an attempt to better explain the disease courses of psychiatric patients. At the heart of this initiative is the development of a matrix in which functional aspects of behavior are related to not only biomarkers such as genes and molecules, but also findings obtained through, for instance, imaging procedures or standardized questionnaires. Interestingly, but not surprisingly, the notion of 'mental disorder' is in this matrix absent. The RDoC initiative has been received both with enthusiasm (by neuroscientists) and skepticism (by traditional psychiatrists) and several caveats have been raised from within the domain. The latter have primarily to do with the way the matrix is currently organized and the lack of expressiveness. Our analysis demonstrates that present qualms are not ungrounded, but that major improvements can be achieved by applying appropriate terminological and ontological principles grounded in Ontological Realism.