



ELSEVIER



CrossMark

**Journal of
Clinical
Epidemiology**

Journal of Clinical Epidemiology 68 (2015) 1046–1058

Assessment of vibration of effects due to model specification can demonstrate the instability of observational associations

Chirag J. Patel^a, Belinda Burford^b, John P.A. Ioannidis^{a,c,d,e,f,*}

^a*Department of Biomedical Informatics, Harvard Medical School, 10 Shattuck St., Room 314A, Boston, MA 02115, USA*

^b*Melbourne School of Population and Global Health, Level 4, 207 Bouverie St., The University of Melbourne, Victoria 3010, Australia*

^c*Department of Medicine, Stanford Prevention Research Center, Stanford University School of Medicine, Medical School Office Building, Room X306, 1265 Welch Rd, Stanford, CA 94305, USA*

^d*Department of Statistics, Stanford University School of Humanities and Sciences, Stanford, CA 94305, USA*

^e*Department of Health Research and Policy, Stanford University School of Medicine, Stanford, CA 94305, USA*

^f*Meta-Research Innovation Center at Stanford (METRICS), Stanford University, Stanford, CA 94305, USA*

Accepted 30 May 2015; Published online 6 June 2015