

goals of individuals and communities to achieve optimum quality and quantity of life. There is increasing evidence that such a health system should be based on strong primary health care, that uses an effective community-oriented primary care model,⁴ addressing ways to reduce the causes of NCDs and tackling social and political issues at the local, national, and international level because of its emphasis on community input.

Earlier this year, Richard Horton⁵ commented that “There has been an argument for several decades now to drop vertical disease programmes...and replace them with schemes that emphasise health systems strengthening... Health systems approaches to aid may be intellectually correct, but they are politically problematic.” A comprehensive integrated strategy based on primary health care to tackle NCDs creates a unique opportunity to make the switch.

We declare that we have no conflicts of interest.

*Jan De Maeseneer, Chris van Weel, David Egilman, Marcelo Demarzo, Nelson Sewankambo
jan.demaeseneer@ugent.be

Faculty of Medicine and Health Sciences, Secretariat of The Network: Towards Unity for Health, Ghent University, Ghent, Belgium (JDM); Department of Primary and Community Care, Radboud University Nijmegen Medical Centre, Nijmegen, Netherlands (CvW); Department of Family Medicine, Brown University, Providence, RI, USA (DE); Department of Preventive Medicine, Federal University of São Paulo, São Paulo, Brazil (MD); and Makerere University College of Health Sciences, Kampala, Uganda (NS)

- 1 van Weel C, De Maeseneer J, Roberts R. Integrating personal and community health care. *Lancet* 2008; **372**: 871–72.
- 2 De Maeseneer J, van Weel C, Egilman D, et al. Funding for primary health care in developing countries: money from disease specific projects could be used to strengthen primary care. *BMJ* 2008; **336**: 518–19.
- 3 Venkat Narayan KM, Mohammed KA, del Rio C, et al. Global noncommunicable diseases—lessons from HIV/AIDS experience. *N Engl J Med* 2011; **365**: 876.
- 4 Rhyne R, Bogue R, Kukulka G, Fulmer N. Community oriented primary care: health care for the 21st century. Washington, DC: American Public Health Association, 1998.
- 5 Horton R. Offline: One day in Brussels. *Lancet* 2012; **379**: 600.

Non-specific low back pain

In their Seminar on low back pain, Federico Balagué and colleagues (Feb 4, p 482)¹ conclude that (occupational) mechanical factors are unlikely to be independently causative of low back pain. This far-reaching conclusion is based on reviews of published epidemiological studies and on the relation between evidence of tissue injury on imaging and low back pain.

In terms of epidemiology, Balagué and colleagues base their conclusion on a series of reviews by Wai, Roffey, Bishop, Kwon, and Dagenais. These reviews have been criticised for several reasons.^{2,3} First, they rely on application of the Bradford-Hill criteria to single epidemiological studies, whereas these criteria were proposed to help assess the evidence for causality across studies from different disciplines. Second, other reviews⁴ have reached contrasting conclusions. Third, in the studies on which the reviews were based, exposure to mechanical loading was incomplete—ie, not encompassing intensity, frequency, and duration—and was based on inaccurate proxy measures. Where exposure has been better characterised, strong relations are seen.⁵

Balagué and colleagues furthermore use the lack of a one-to-one relation between back pain and structural damage to the spine as an argument against the relevance of mechanical injury in the origin of low back pain. Such an argument could be used similarly to deny the relation between smoking and lung cancer.

Neglect of occupational, mechanical loading as a causal factor in low back pain is not based on evidence and might seriously hamper effective prevention and management.

We declare that we have no conflicts of interest.

*J H van Dieën, P P F M Kuijer, A Burdorf, W S Marras, M A Adams
j.van.dieen@vu.nl

Research Institute MOVE, Faculty of Human Movement Sciences, VU University Amsterdam, 1081 BT Amsterdam, Netherlands (JHvD); Coronel Institute of Occupational Health, Academic Medical Center/University of Amsterdam, Amsterdam, Netherlands (PPFMK); Department of Public Health, Erasmus MC, Rotterdam, Netherlands (AB); Biodynamics Laboratory, Ohio State University, Columbus, OH, USA (WSM); and Centre for Comparative and Clinical Anatomy, University of Bristol, Bristol, UK (MAA)

- 1 Balagué F, Mannion AF, Pellisé F, Cedraschi C. Non-specific low back pain. *Lancet* 2012; **379**: 482–91.
- 2 Takala EP. Lack of “statistically significant” association does not exclude causality. *Spine J* 2010; **10**: 944.
- 3 McGill SM. Letter to the editor regarding: Causal assessment of occupational lifting and low back pain: results of a systematic review by Wai et al. *Spine J* 2011; **11**: 365–66.
- 4 da Costa BR, Vieira ER. Risk factors for work-related musculoskeletal disorders: a systematic review of recent longitudinal studies. *Am J Ind Med* 2010; **53**: 285–323.
- 5 Norman R, Wells R, Neumann P, Frank J, Shannon H, Kerr M. A comparison of peak vs cumulative physical work exposure risk factors for the reporting of low back pain in the automotive industry. *Clin Biomech* 1998; **13**: 561–73.

Authors' reply

Before we respond to the issues raised by J H van Dieën and colleagues, we would like to point out a couple of minor inaccuracies in their letter. Our Seminar was not about “low back pain” (all-cause) but about non-specific low back pain, as defined in the opening paragraph. This is not just a semantic issue. There is an important distinction between the two, and one that is highly relevant in this context. The biological plausibility of a mechanical role in (some) back pain—on the basis of experimental or laboratory studies including those by van Dieën and colleagues—mainly concerns specific types of low back injury such as acute prolapsed disc, fracture, etc. The second inaccuracy is that our conclusion (p 488) makes no reference to any specific causative factors in back pain; it acknowledges the effect of physical and environmental factors, among others.

We have read the earlier letters by van Dieën, Kuijer, and others criticising the Dagenais group's systematic reviews and we refer the interested reader to the eloquent