

improved diagnostics, demand generation, private sector engagement, and various active case finding approaches. Most projects included a combination of interventions, making assessment of the contribution of active case finding difficult.

With little evidence of a population-level effect on transmission, the primary objective of active case finding should be to improve health outcomes among screened individuals. The principles of screening include a careful balancing of the benefits and risks, including false positive diagnosis.<sup>6</sup> As a result, WHO strongly recommends systematic screening in three risk groups: tuberculosis contacts, people with HIV/AIDS, and people exposed to silica dust.<sup>6</sup> In most settings, the size of these risk groups is small, and such targeted screening would therefore contribute only marginally to overall tuberculosis detection.

The epidemiology and health-system context needs to guide prioritisation of other risk groups to be screened systematically. Mass screening should be avoided, and active case finding in risk groups with moderately increased tuberculosis risk should be done with great caution, while minimising risk of false positive diagnosis. Any implementation of a screening strategy needs to be paired with assessment to ensure cost-effectiveness and minimise risk of harm.

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Vikram Patel and colleagues<sup>1</sup> discussed most of the health issues pertaining to tuberculosis control in India, but possibly ignored very important issues of tuberculosis control, which contribute to international health because tuberculosis is an aerosol-mediated transmissible disease. India has the highest estimated incidence of tuberculosis (2 200 000) in the Global Tuberculosis Report 2015<sup>2</sup> compared with its neighbouring countries China (930 000), Bangladesh (360 000), and Pakistan (500 000). In 2014, 250 000 deaths from tuberculosis (including HIV-positive tuberculosis) were officially classified as deaths caused by HIV/AIDS in the International Classification of Diseases.<sup>2</sup>

India accounted for 27% of global tuberculosis notifications in 2014.<sup>2</sup> The number of new and relapse tuberculosis cases notified in India reached 1·61 million in 2014, a 29% increase compared with 1·24 million in 2013. India has 7100 estimated cases of multidrug-resistant tuberculosis among notified pulmonary tuberculosis cases—the highest number of reported multidrug-resistant cases in the world.<sup>2</sup>

There was a 30% increase in documented new and relapse cases of tuberculosis among children in 2014 compared with 2013, with the largest increase in India (about 30 000 more cases than in 2013).<sup>2</sup>

Worldwide, 4044 patients with extensively drug-resistant (XDR) tuberculosis were enrolled on treatment in 2014 (higher than the 3284 in 2013). Most (1262) of the XDR tuberculosis cases in 2014 were in India (increased from 392 in 2013).<sup>2</sup>

These numbers are increasing, despite The Global Fund disbursed for tuberculosis control to India, US\$165 million in 2013.<sup>2</sup> Perhaps we are repeating the same mistakes by adopting existing strategies and expecting different results.

I declare no competing interests.

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## E-cigarettes are less harmful than smoking

The *Lancet* Editorial<sup>1</sup> criticising Public Health England's review of electronic cigarettes (e-cigarettes) focused on three supposed short-comings of our paper:<sup>2</sup> a lack of hard evidence, no formal criteria used, and so relied on the opinions of participants, and potential bias arising from the selection of participants and the declared conflicts of interest of some authors.<sup>2</sup> As authors of the original paper,<sup>2</sup> we believe that these three criticisms have over-generalised the evidence issue, did not respect the knowledge and experience of the experts selected, and did not take into account the many measures used to minimise potential bias.

First, regarding the lack of evidence, an abundance of evidence is available about the harm of cigarettes. The paucity of evidence for serious harm to users of e-cigarettes over the years since they were first marketed in 2006, with millions purchased, in itself is evidence. Additionally, biomarkers of potential harm of e-cigarettes are broadly reassuring.<sup>3</sup>

Second, we used the approach of decision conferencing,<sup>4</sup> sought from participants their expert judgments and not opinions. The criteria and their definitions were taken from three drug harm studies, the Advisory Council on the Misuse of Drugs' original formulation,<sup>5</sup> the 2010 study of UK drug harms published in *The Lancet*,<sup>6</sup> and the 2013 replication for EU drug harms.<sup>7</sup> Judgments about scores were based on data along with our own knowledge and experience of the extent of harm and plausible causal mechanisms for harm. If data were available, these were discussed openly about their validity and reliability by the group, but if data were sparse or absent we relied on logical inferences (eg, the dearth of evidence of dying directly from an overdose of smoking led us to infer that cigarettes are not very harmful on that criterion and gave it a low score, but assigned e-cigarettes a higher harm score for that effect because the nicotine solution in the cartridges could potentially be directly accessed). A strength of the multicriteria decision analysis (MCDA) model<sup>8</sup> is that it incorporates data and the judgments about the relevance of the data, thus capturing meaningful differences in the importance of their effects.

Third, we selected experts on the basis of their publications, experience, and generally acknowledged professional standing to have diverse perspectives and expertise that could be relevant to assess harms from nicotine products. We included experts on behavioural pharmacology, legal aspects of tobacco control, smoking policy, toxicology, neuropsychopharmacology, psychopharmacology, public health sciences,

and internal medicine, who collectively have published more than 300 scientific reports relevant to understand nicotine and tobacco harms. We feel that it was misleading of *The Lancet*<sup>1</sup> to characterise the authors<sup>2</sup> as having "no prespecified expertise in tobacco control" because the project was about relative harms of nicotine products not tobacco policy.

Regarding the concern about author conflicts of interest,<sup>1</sup> the decision conference process is designed to ensure that participants challenge each other. Additionally, the facilitator ensured that peer review operated on-the-spot throughout the creation and exploration of the MCDA model.<sup>8</sup> Consistency checks and sensitivity of overall results to the input scores and weights were thoroughly explored; the model results were very robust to imprecision in data and the few disagreements among the experts. As a result, a single participant with a potential bias could not have had any meaningful influence on the process outcome.

Potential sources of conflicts of interests were disclosed at the 2013 MCDA meeting (July, 2013, London, UK). Any conflicts from the previous 3 years before the meeting were disclosed in the published paper.<sup>2</sup> We were informed by EuroSwiss Health (Trélex, Switzerland) that they do not receive funding from any tobacco or e-cigarette manufacturers; a requirement we had before accepting their funding. We received no funds from tobacco or e-cigarette manufacturers and, as stated in our paper,<sup>2</sup> EuroSwiss Health and Lega Italiana Anti Fumo (LIAF) had no influence on the MCDA process.

We are confident that the nicotine products we studied were assessed by an appropriately structured process with a requisite diversity of research experts who engaged in constructive discourse in building a model that represented the most scientifically sound assessment of the relative harms of nicotine products. Our model's results for harms to users of e-cigarettes provided Public Health England with

the basis for their correct calculation to estimate that e-cigarettes are 95% less harmful to users than smoking. Or, as we prefer, smoking is estimated to be twenty times more harmful to users than vaping e-cigarettes.

DJN, DB, HVC, MD, KL, JR, and DS declare no competing interests. LDP reports personal fees from DrugScience. JF reports personal fees, grants, and non-financial support from Pfizer and reports personal fees and non-financial support from GlaxoSmithKline (GSK), outside the submitted work. KF reports consulting for Pfizer, Chrono Therapeutics, Novartis, Nicotivum, and Nicoventures, and non-financial support from Swedish Match. RP reports grants from Pfizer and Boehringer Ingelheim, personal fees from Novartis and GSK (outside the submitted work), is a consultant for Cancer Research UK, Italian Ministry of Health's Technical Committee on electronic cigarettes, the UK All Party Parliamentary Group, and previously was a consultant for Global Health Alliance for treatment of tobacco dependence, Arbi Group Srl (an Italian e-cigarette distributor), and ECITA (Electronic Cigarette Industry Trade Association, UK). RP is a scientific advisor for Italian Antismoking League (LIAF).

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## The Institute of Fiscal Studies' verdict on a sugary drink tax

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On Feb 8, 2016, the influential Institute for Fiscal Studies (IFS) released its annual Green Budget—a report aimed at informing the government's March budget.<sup>1</sup> For the first time, their budget report discusses a sugary drink tax and concludes that “the efficacy of [a sugary drink tax] will depend on what products [consumers] switch to and how firms change their prices”. The IFS warns that a sugary drink tax could lead to consumers switching to chocolate or that prices of diet drinks could rise thereby weakening the tax's impact on health.

The IFS have based their conclusions on economic theory without reference to the evidence gathered from the evaluation of sugary drink taxes introduced in Mexico, Hungary, Finland, France, and Berkeley (CA, USA). Findings from Mexico show that a sugary drink tax of about 10% introduced in 2014 resulted in an average reduction of 6% in sugary drink sales across the year, increasing to a 12% reduction in December, 2014, with greater reductions in lower socioeconomic groups.<sup>2</sup> Sales figures from Hungary, Finland, and France have also shown measurable decreases in sales of sugary drinks.<sup>3</sup>

Consumption of sugary drinks results in the addition of non-satiating calories to the diet, with little reduction in consumption elsewhere in the diet.<sup>4</sup>

This finding suggests that reducing consumption of sugary drinks is unlikely to lead to increases in consumption of substitute food products such as chocolate. Moreover, there is strong evidence that consumption of sugary drinks is associated with obesity, diabetes, dental caries, and cardiovascular disease, with the effects on diabetes and dental caries being independent of total calorie intake.

Evidence from Mexico and Berkeley suggest that taxes of sugary drinks do not influence the price of substitute products such as diet drinks. In Mexico, prices of sugary drinks increased by more than 10% (ie, more than a 100% tax pass-on rate), whereas prices of diet drinks were unaffected.<sup>5</sup> Additionally in Berkeley, prices of sugary drinks increased by 0.47 cents per ounce (about a 50% tax pass-on rate), although diet drink prices were unaffected.<sup>6</sup>

The IFS's Green Budget correctly notes that a sugary drink tax alone will not result in the UK population reducing sugar consumption to meet the target level. But as Public Health England's sugar reduction report recently suggested,<sup>7</sup> this tax could play an important part in a cadre of interventions at the population level. Evidence of the effectiveness of the implementation of sugary drink taxes is available and it is disappointing that the IFS overlooked this evidence in its Green Budget.

MR and PS are currently undertaking work funded by Public Health England on revising the eat well plate. MR is Chair of Sustain and a trustee of the UK Health Forum. AB and OM are members of the UK Faculty of Public Health. OM is a member of the UK Health Forum. Each of these organisations has a position statement supporting taxes on sugar sweetened beverages. None of these organisations had any role in the writing of this Correspondence.

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Research Council Epidemiology Unit, University of Cambridge School of Clinical Medicine, Cambridge, UK (OM).

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## Department of Error

Dheda K, Barry CE 3rd, Maartens G. *Tuberculosis*. *Lancet* 2016; **387**: 1211–26—In panel 2, the section “isoniazid mono-resistant tuberculosis” should have read “Treat for 6 months with rifampicin, pyrazinamide, and ethambutol,<sup>107–109</sup> or for 9 months with rifampicin, ethambutol, and pyrazinamide in the 2 month intensive phase and rifampicin and ethambutol in the continuation phase<sup>36</sup>”. This correction has been made to the online version as of Oct 5, 2015, and the printed Seminar is correct.

Dheda K, Barry CE 3rd, Maartens G. *Tuberculosis*. *Lancet* 2016; **387**: 1211–26—The appendix for this Seminar has been updated. This correction has been made to the online version as of March 17, 2016.

Lincoff AM, Mehran R, Povsic TJ, et al, on behalf of the REGULATE-PCI Investigators. Effect of the REG1 anticoagulation system versus bivalirudin on outcomes after percutaneous coronary intervention (REGULATE-PCI): a randomised clinical trial. *Lancet* 2016; **387**: 349–56—On p 9 of the appendix, Dean Boudoulas should be Konstantinos D Boudoulas. The appendix has been updated as of March 17, 2016.