

CORRESPONDENCE

Authors' response to: primary healthcare factors and hospital admission rates for COPD: no association

We thank White and Jamieson for their comments¹ on our 2011 *Thorax* paper on associations with admission rates for COPD.² White and Jamieson appear to be confused about the practice population measures we used. If that is because we referred to the variable concerned too loosely in our correspondence with them we apologise. However as table 4 of our paper demonstrates, the only general practitioner (GP) supply variable used in the analysis, at either primary care trust or practice levels, was GPs/100 000 practice population. We do not agree with their statement that COPD admissions/100 000 GP-registered population includes an adjustment for practice list size, as it is purely a measure of the incidence rate in a population. We included practice list size (which is not a measure of supply) as an independent variable, but it was later dropped in the multivariable analysis step-wise variable selection.

We agree with White and Jamieson that the effect size of GPs/100 000 population is small compared with the much larger effects of other population and healthcare factors in the paper. However White and Jamieson then go on to make the sweeping and unjustified statement that "there is no evidence that GP supply or treatment factors are predictive of rates of COPD admissions". Our COPD analysis shows that patient-perceived access to primary healthcare—Quality & Outcomes Framework (QOF) Patient Experience indicators 07 and 08—has a large effect size, with incidence rate ratios (IRRs) of 0.790 and 0.902, respectively, as does influenza immunisation (QOF COPD indicator 8, IRR 0.825). Surely these are primary healthcare factors? It is plausible that actual or perceived poor access to

primary care could delay treatment for COPD exacerbations. Simulation modelling suggests that the best strategy to reduce the burden of COPD is by reducing exacerbations, and our analysis provides evidence for that.³

The effects of primary healthcare clinical factors will obviously differ depending on the effectiveness of the treatment concerned, and the extent of implementation. If coverage of the diseased population by the clinical intervention concerned has been close to complete for some years, then there will be no currently observable effect on admission rates. This does not mean that such treatments are ineffective, merely that all patients are already benefiting from them equally.

In the case of COPD, pharmacological interventions may be less effective than those for some other chronic diseases, which is presumably why QOF COPD indicators do not include them. However several non-pharmacological interventions are effective: spirometry testing of smokers in primary care combined with smoking cessation clinics increase the smoking cessation rate,⁴ and smokers with airway obstruction are more likely to quit smoking.⁵ A Cochrane review found that outpatient pulmonary rehabilitation (which should be directly accessible from primary care) has moderately large and clinically significant benefits,⁶ and it is recommended by a British Thoracic Society guideline accredited by the National Institute of Health and Care Excellence.⁷ Unfortunately, since these primary care interventions are not QOF COPD indicators, we were unable to assess any additional impact they may have.

Michael Soljak,¹ Amaia Calderón-Larrañaga,^{1,2}
Derek Bell,³ Azeem Majeed¹

¹Department of Primary Care & Public Health, Imperial College London, London, UK

²Aragon Health Sciences Institute, Zaragoza, Spain

³Division of Medicine, Imperial College London, London, UK

Correspondence to Dr Michael Soljak, Department of

Primary Care & Public Health, Imperial College London, 3rd Floor, Reynolds Building, Charing Cross Campus, London W6 0YD, UK; m.soljak@imperial.ac.uk

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