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Challenges in mapping research investments for treatments against pneumonia

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We thank Prabhavathi Fernandes for his interest in our work on pneumonia-related research investments,¹ and welcome his response.² It is very encouraging to see described the investments of Cempra and the progress made in developing treatments for pneumococcal pneumonia, alongside the success of pneumococcal vaccination programmes³.

We would like to clarify Dr Fernandes' point regarding 'the authors are incorrect in stating that investment has been lacking for the development of antibiotics to treat pneumonia'. Our reference to a lack of investment in clinical trials and antimicrobial resistance is clearly a conclusion reached from within the confines of our dataset, that of public and philanthropic awards to UK institutions; here the evidence is really unequivocal, there is precious little research investment in the UK in the area of pneumonia and other respiratory infections,⁴ hence our point that there is a real need to fill in the gaps in knowledge across all sources of investment.

There are two key areas where we are looking to expand the Research Investments in Global Health analyses- i) to go beyond the UK, and include analyses of infectious disease awards made to institutions in other countries (particularly the USA); ii) to engage with the private sector globally, and be able to incorporate pharmaceutical and biotechnology

research investment information into our analyses with the same level of detail we have awards from the public and charitable sectors.

On this latter point, our thanks again to Dr Fernandes for raising the issue of private sector investment, and we will be proactive in seeking out fruitful engagement on this subject that will benefit senior global policymakers, funders, and research institutions.

- 1 Head MG, Fitchett JR, Newell M-L, Scott JAG, Clarke SC, Atun R. Investment in pneumonia and pneumococcal research. *Lancet Infect Dis* 2014; **14**: 1037–8.
- 2 Fernandes P. Investment in antibiotics against pneumonia. *Lancet Infect Dis* 2015; **15**: 376.
- 3 Waight PA, Andrews NJ, Ladhani SN, Sheppard CL, Slack MPE, Miller E. Effect of the 13-valent pneumococcal conjugate vaccine on invasive pneumococcal disease in England and Wales 4 years after its introduction: an observational cohort study. *Lancet Infect Dis* 2015; **15**: 535–43.
- 4 Head MG, Fitchett JR, Cooke MK, *et al.* Investments in respiratory infectious disease research 1997-2010: a systematic analysis of UK funding. *BMJ Open* 2014; **4**: e004600–e004600.