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## COVID-19: stewardship of diagnostic tests for bacterial co-infection

Clark D Russell and colleagues<sup>1</sup> provide compelling evidence that community acquired bacterial co-infection in patients with COVID-19 is rare, but despite this, patients with COVID-19 are frequently prescribed broad-spectrum antibacterials on admission. In addition to the need to improve antimicrobial stewardship, there is also a need to improve the stewardship of diagnostic testing.

For instance, NICE guidelines<sup>2</sup> continue to recommend that clinicians consider the use of urinary antigen testing in patients with COVID-19. Like Russell and colleagues, our local data from March 3, 2020 to March 28, 2021 show that community acquired bacterial co-infection with *Streptococcus pneumoniae* or *Legionella pneumophila* is rare. In our cohort of 3058 patients admitted with community-onset SARS-CoV-2 infection, only nine (0.3%) had evidence of *S pneumoniae* co-infection:

six (0.8%) of 711 patients tested had *S pneumoniae* with respiratory culture, one (0.06%) of 1744 patients with a blood culture had pneumococcal bacteraemia, and two (0.7%) of 302 tested had a positive urinary antigen. Indeed, one pneumococcal urinary antigen test was probably a false positive, as a 16S PCR test on a bronchoalveolar lavage sample detected *Streptococcus mitis* only. Additionally, *Legionella* urinary antigen tests were done on 333 patients, all of which were negative.

After the first wave, our institution changed the guidelines recommending against use of urinary antigen testing, leading to a reduction in their usage. For instance, the proportion of intensive care unit patients receiving any urinary antigen test fell from 142 (59.4%) of 239 in wave one to 122 (29.8%) of 410 in wave two ( $p < 0.0001$ ).

Current guidelines should be revised in view of evidence that respiratory bacterial co-infection is rare on admission of community-onset SARS-CoV-2 cases. Guidelines should focus attention on more targeted

diagnostic testing, particularly for hospital acquired infection, to improve antimicrobial stewardship. This is now feasible given widespread introduction of point of care SARS-CoV-2 diagnostics that can give confidence in diagnosis leading to tailored management, including of antimicrobial prescriptions.

We declare no competing interests.

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Tom G S Williams, \*Luke B Snell,  
Jonathan D Edgeworth,  
Geraldine A O'Hara  
luke.snell@nhs.net

Department of Infection, Guy's and St Thomas' NHS Foundation Trust, Westminster Bridge Road, London, UK

- 1 Russell CD, Fairfield CJ, Drake TM, et al. Co-infections, secondary infections, and antimicrobial use in patients hospitalised with COVID-19 during the first pandemic wave from the ISARIC WHO CCP-UK study: a multicentre, prospective cohort study. *Lancet Microbe* 2021; 2: e354–65.
- 2 National Institute for Health and Care Excellence. COVID-19 rapid guideline: managing the long-term effects of COVID-19 (NG188): evidence reviews 6 and 7: monitoring and referral. London: National Institute for Health and Care Excellence, 2021.



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