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## Reply to Dinh et al

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TO THE EDITOR—We appreciate the letter from Dinh and colleagues [1] that highlights the rationale for reducing duration of antibiotic use, the importance of building a strong evidence base for improved clinical practice, and the role of antibiotic stewardship in promoting appropriate antibiotic prescribing in the treatment of community-acquired pneumonia (CAP).

First, we agree with the authors' focus on strengthening the evidence base through noninferiority trials testing shorter versus longer durations of antibiotic treatment. In particular, this strengthened evidence could have a major impact on appropriate antibiotic use. One potential reason for lack of adherence to the current recommendations on duration of therapy may be clinician concerns about the safety of shorter courses of antibiotic therapy. Although guidance is informed by evidence from randomized controlled noninferiority trials, gaps in the evidence remain for specific agents and classes, and for region-specific effects [2–4]. Many of the trials have been conducted in Europe, which may have a different distribution of etiologies (i.e., causative organisms). Regional variation in species distribution, antibiotic resistance patterns, available antibiotics, and healthcare system characteristics highlight the importance for local research to inform guidance [3]. A more robust evidence base from well-designed studies may lead to stronger guideline recommendations.

Second, we reemphasize the importance of antibiotic stewardship programs in improving appropriate antibiotic prescribing by providers. Dinh and colleagues [1] touch on antibiotic stewardship as a strategy for influencing physician prescribing behaviors. Strong, local antibiotic stewardship programs championing appropriate antibiotic durations are critical to improving appropriate prescribing practices. Antibiotic stewardship, which ensures patients receive the right antibiotic, at the right dose, at the right time, and for the right duration, is a cornerstone of the National Action Plan for Combating Antibiotic-Resistant Bacteria [5].

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This plan aims for all acute care hospitals to establish antibiotic stewardship programs and for reduction in inappropriate antibiotic use by 20% in inpatient settings by 2020. Growing evidence demonstrates that antibiotic stewardship interventions targeting adults hospitalized with CAP can be effective in reducing treatment duration [6–8].

Finally, we add to the discussion that attention to antibiotic prescribing practices at the time of discharge may be a key target for antibiotic stewardship programs in the promotion of appropriate antibiotic duration. In our recent study of adult patients covered by private or Medicare insurance in the United States [9], we found that prescription fills at discharge contributed more than half the length of therapy among patients hospitalized with CAP. This finding suggests that hospital discharge is an important time point for antibiotic stewardship programs to reassess and optimize prescribing for this patient population; evidence suggests this finding may extend beyond CAP [10].

Antibiotic stewardship programs are likely to have more leverage as additional evidence to support the best approach for selecting the duration of therapy becomes available. Antibiotic stewardship interventions at the time of discharge and during transitions in care could lead to significant reductions in the volume of antibiotic prescribing for CAP.

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## References

1. Dinh A, Davido B, Bouchand F, Duran C, Ropers J, Cremieux AC. Honey, I shrunk the antibiotic therapy. *Clin Infect Dis*. 2018; 66:1981–2. [PubMed: 29370382]
2. Li JZ, Winston LG, Moore DH, Bent S. Efficacy of short-course antibiotic regimens for community-acquired pneumonia: a meta-analysis. *Am J Med* 2007; 120:783–90. [PubMed: 17765048]
3. Mandell LA, Wunderink RG, Anzueto A, et al. ; Infectious Diseases Society of America; American Thoracic Society. Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. *Clin Infect Dis* 2007; 44:S27–72. [PubMed: 17278083]
4. Aliberti S, Giuliani F, Ramirez J, Blasi F; DURATION Study Group. How to choose the duration of antibiotic therapy in patients with pneumonia. *Curr Opin Infect Dis* 2015; 28:177–84. [PubMed: 25692271]
5. National Action Plan for Combating Antibiotic-Resistant Bacteria. Available at: [https://www.cdc.gov/drugresistance/pdf/national\\_action\\_plan\\_for\\_combating\\_antibiotic-resistant\\_bacteria.pdf](https://www.cdc.gov/drugresistance/pdf/national_action_plan_for_combating_antibiotic-resistant_bacteria.pdf). Accessed February 2, 2017.
6. Kurtzhals KE, Sellick JA Jr, Ruh CA, Carbo JF, Ott MC, Mergenhagen KA. Impact of antimicrobial stewardship on outcomes in hospitalized veterans with pneumonia. *Clin Ther* 2016; 38:1750–8. [PubMed: 27349712]
7. Haas MK, Dalton K, Knepper BC, et al. Effects of a syndrome-specific antibiotic stewardship intervention for inpatient community-acquired pneumonia. *Open Forum Infect Dis*. 2016; 3: ofw186.
8. Avdic E, Cushinotto LA, Hughes AH, et al. Impact of an antimicrobial stewardship intervention on shortening the duration of therapy for community-acquired pneumonia. *Clin Infect Dis* 2012; 54:1581–7. [PubMed: 22495073]

9. Yi SH, Hatfield KM, Baggs J, et al. Duration of antibiotic use among adults with uncomplicated community-acquired pneumonia requiring hospitalization in the United States. *Clin Infect Dis*. 2018; 66:1982–3. [PubMed: 29370360]
10. Scarpato SJ, Timko DR, Cluzet VC, et al. ; CDC Prevention Epicenters Program. An evaluation of antibiotic prescribing practices upon hospital discharge. *Infect Control Hosp Epidemiol* 2017; 38:353–5. [PubMed: 27890038]

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