Title:

Comment on: Implementation of hospital-wide reform at improving access and flow: Impact on time to antibiotics in the emergency department.

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Word count: 534 words (including titles, authors and references); Main text: 386 words

This is the author manuscript accepted for publication and has undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: [10.1111/1742-6733.12658](https://doi.org/10.1111/1742-6733.12658)

Contributions: SEI drafted the letter and GB revised it. Both authors reviewed and signed off on the final letter.

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To the Editor,

The recent paper by Roman and colleagues found that a hospital-wide intervention to improve ED overcrowding, access and flow was associated with significantly reduced time from ED presentation to first dose of antimicrobial.¹ The paper supports the key concept that a number of important clinical and patient safety benefits may flow from addressing ED overcrowding. There are some additional pieces of information that would be valuable to a reader interested in achieving similar clinical outcomes.

Firstly, it would be useful for the authors to provide data showing that their comprehensive intervention did in fact result in improvements to measures of ED access and flow, including ambulance off-load times and the proportion of patients meeting the 4-hour target, in order to determine whether improvements in time to antimicrobial administration were associated with *actual* improvements in ED access and flow.

Secondly, essential to the analysis of any pre/post-intervention study is reporting of potential confounders, such as how 'busy' the ED and hospital were at each time period. It appears that pre-intervention patients were recruited from October-November 2012 and post-intervention patients were recruited starting in April 2014. Patient flow varies throughout the year, depending upon a range of issues including patient demand and reduced clinical decision making during times of senior staff leave.² Therefore, clarification of the timing of patient recruitment would also be useful.

Finally, whilst the principles of the intervention and changes to the role of senior ED medical staff are described, it would be useful for a reader to be aware of the extent of additional services and staff that were frontloaded into the ED as part of the comprehensive intervention. When we introduced our ED clinical pharmacy service, we implemented a multifaceted antimicrobial stewardship intervention targeting conditions for which EDs often initiate empiric therapy. The intervention included electronic decision support³ and concurrent prescriber feedback by ED pharmacists. It resulted in significant reductions in the time to first dose of antimicrobial and significant improvements in the proportion of patients receiving antimicrobial therapy concordant with hospital and national guidelines and deemed appropriate according to infectious diseases physician opinion (blinded to group allocation). In light of this, it would be valuable for Roman and colleagues to describe the roles that ED pharmacists and antimicrobial stewardship programs played as adjuncts to their access and flow interventions.

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Title:

Re: Implementation of hospital-wide reform at improving access and flow: Impact on time to antibiotics in the emergency department

Date:

2016-10-01

Citation:

Taylor, S. & Braitberg, G. (2016). Re: Implementation of hospital-wide reform at improving access and flow: Impact on time to antibiotics in the emergency department. EMERGENCY MEDICINE AUSTRALASIA, 28 (5), pp.611-611. <https://doi.org/10.1111/1742-6723.12658>.

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