

Prescriber-Led Antibiotic Timeout Alert Responses: A Retrospective Multicenter Study

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BACKGROUND

- Clinical inertia, the tendency to continue a therapy because a patient is improving regardless its true need, has been identified as a major issue contributing to antibiotic overuse.
- An antibiotic time out is an intervention aimed at addressing this issue, where a prescriber is prompted to reevaluate the need for and appropriateness of antibiotic therapy after 48-72 hrs.
- The purpose of this study is to evaluate the impact of a prescriber-led electronic antibiotic timeout alert.

METHODOLOGY

- This was a retrospective cohort study conducted at seven hospitals of a health system.
- The alert prompts prescribers to reevaluate antibiotic therapy after > 72 hours upon opening the electronic chart.
 - Prescribers can then choose to “Continue”, “Renew”, “Discontinue” or “Defer” for each antibiotic.
 - The alert fires for every time the chart is opened, for every prescriber, every time any antibiotic has been active for > 72 hours and no action response (i.e., “Continue”, “Renew”, “Discontinue”) has been selected.

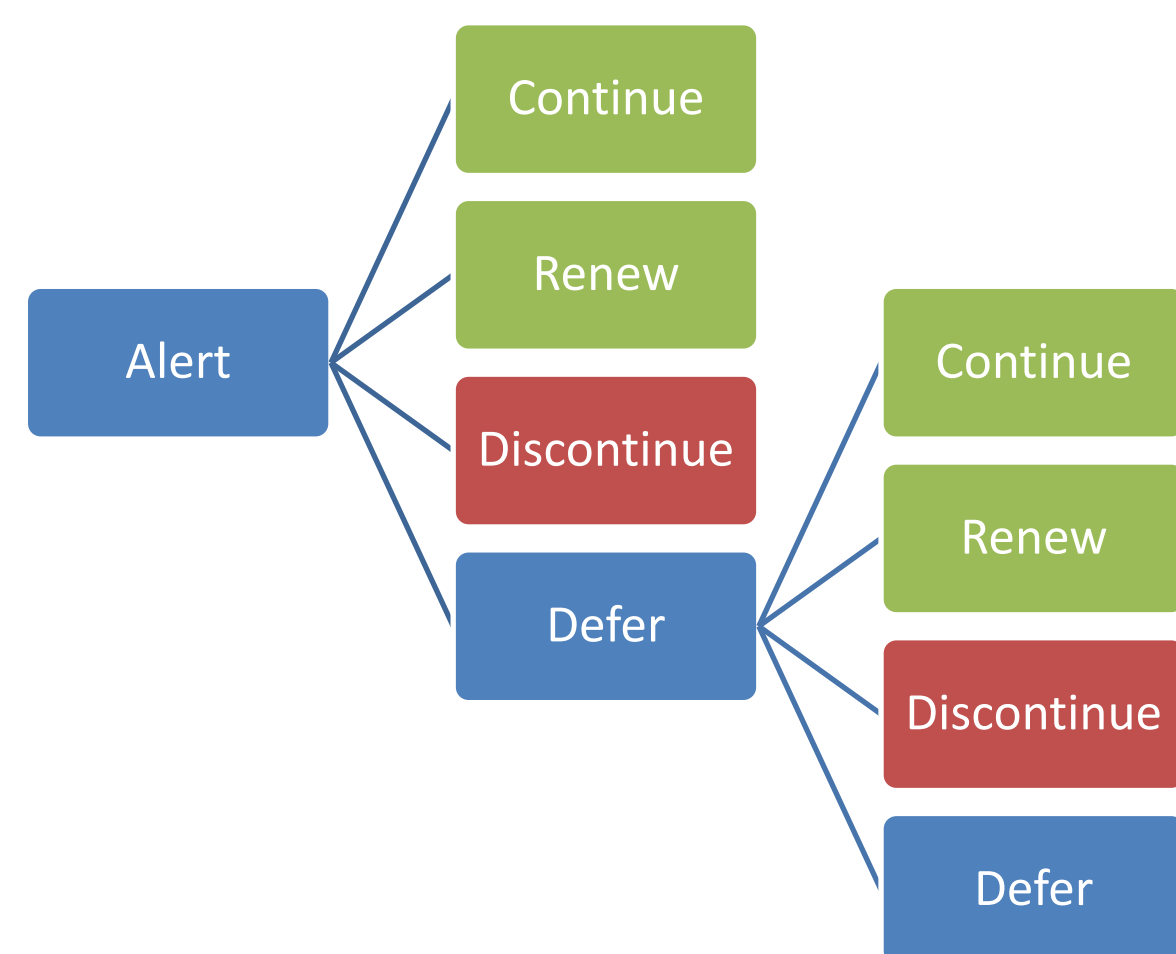


Figure 1: Alert Response Options

METHODOLOGY

- This was a 6 month study from November 1, 2018 – April 30, 2019.
- The primary outcome measure was the percentage of patients having > 1 antibiotic discontinued via the electronic antibiotic timeout alert.
 - Secondary outcomes included frequency of timeout alerts per patient, and percentage of discontinuations per response, by drug, by indication and by patient age.

RESULTS

Figure 2: Percent of Patients with a Discontinuation

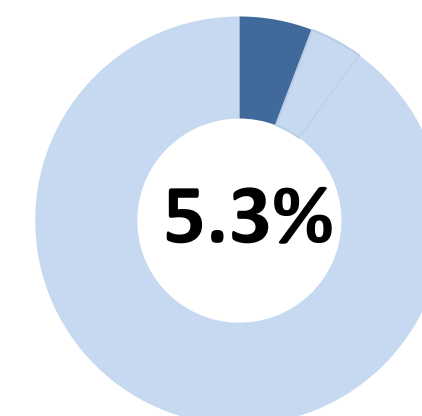


Table 1: Discontinuations by Age

Patient Group	Discontinues Per Response	% Discontinue	P-value
> 18 years	458/9786	4.68%	< 0.001
2-17 years	9/255	3.53%	
< 2 years	29/265	10.94%	

Figure 3: Discontinuations By Antibiotic

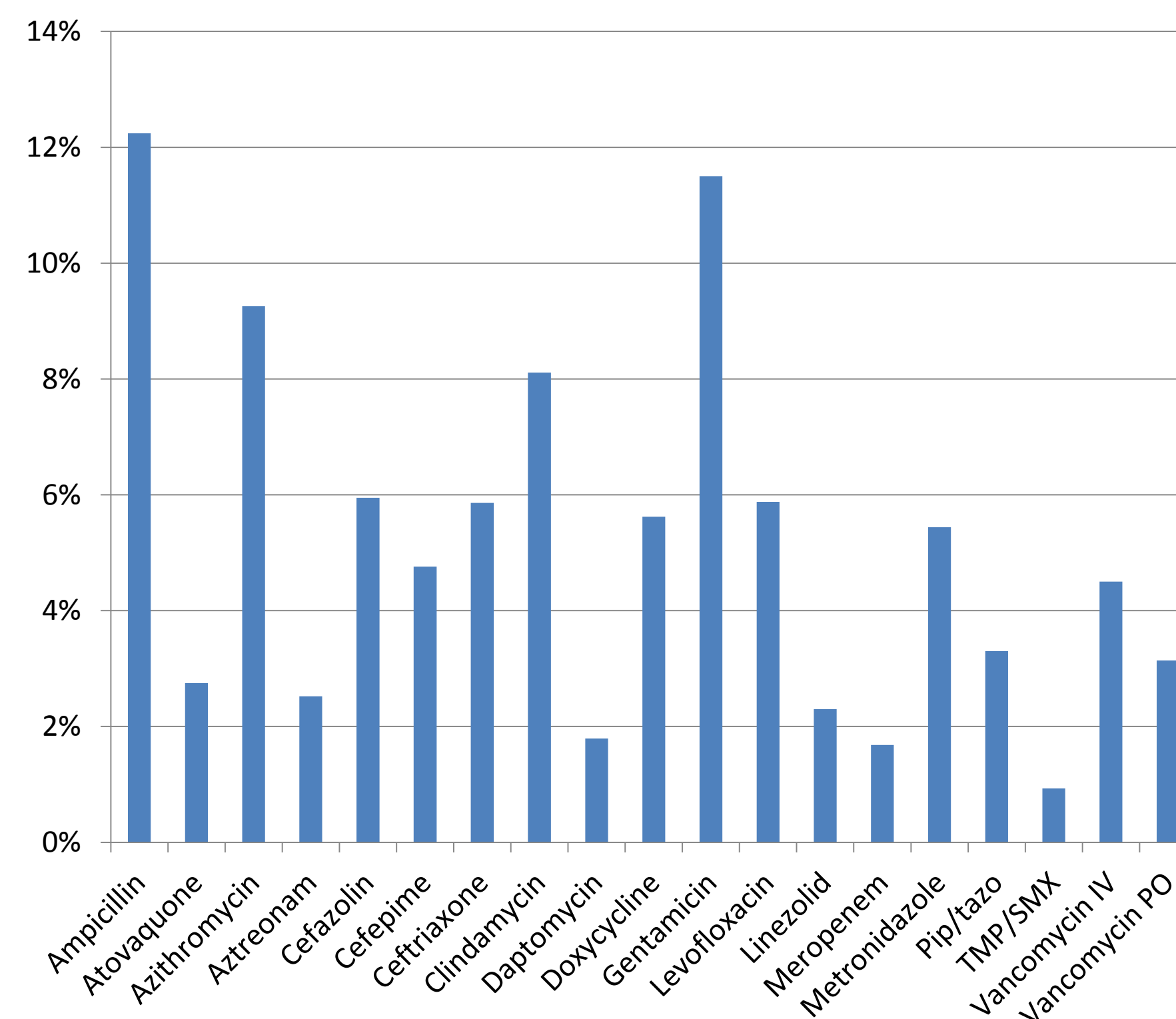
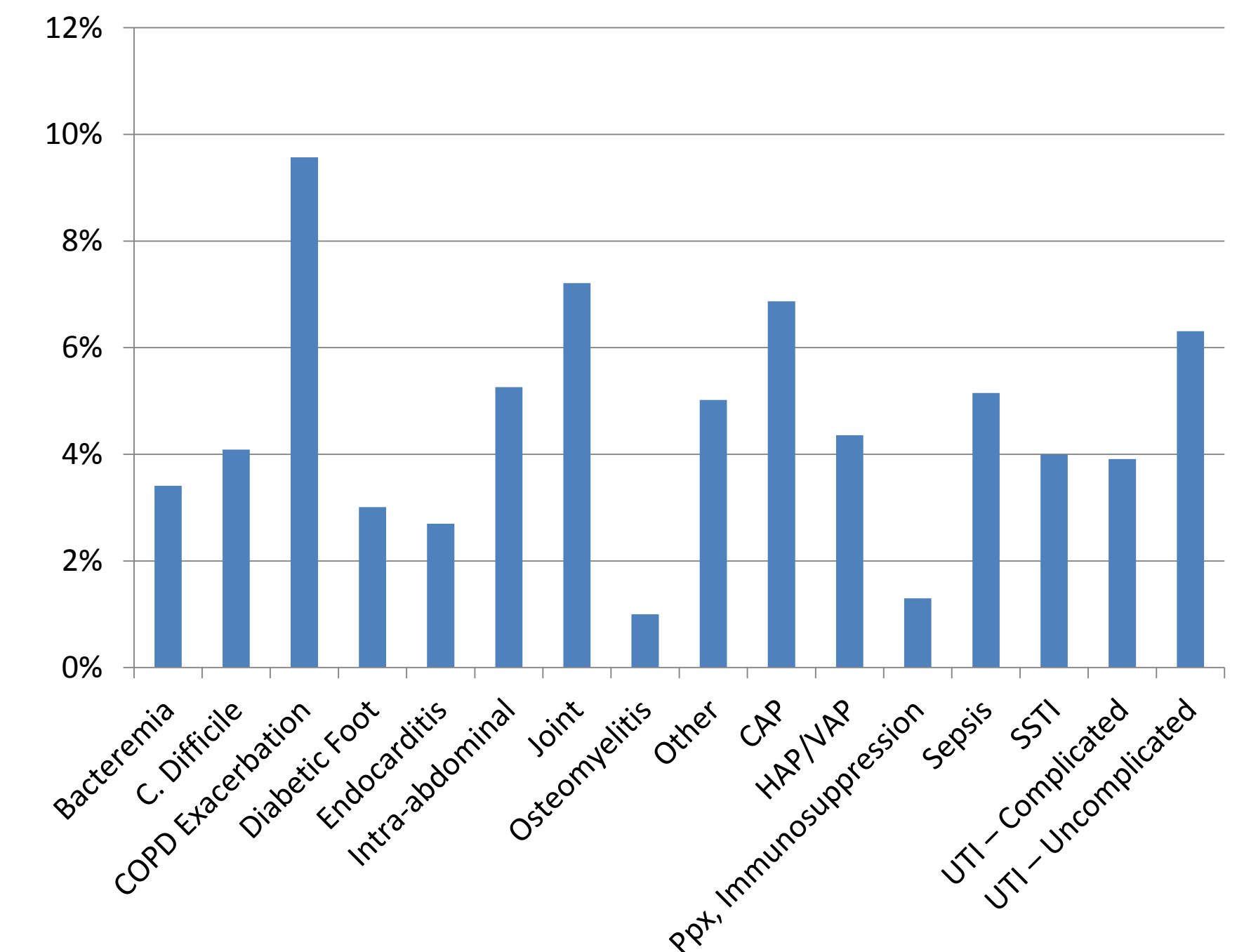


Figure 4: Discontinuations By Indication



- A total of 213950 alerts fired for 13263 patients during the study period.
- 94.2% and 0.4% of responses were “Defer” and “Discontinue”, respectively.
- The average number of alerts per patient was 16.1 and ranged from 7.2 – 23.3 for each hospital.
- The percentage of patients who had at least one discontinuation was 5.3% and ranged from 4.4 - 6.2%.
- 38.2% of patients had no response other than “Defer”.
- There were a total of 10306 action responses, 4.8% of which were “Discontinue”.
- See Figure 3 for rates of discontinuation by antibiotic, Figure 4 for rates of discontinuation by indication, and Table 1 for rates of discontinuation by patient age.

CONCLUSION

- An electronic antibiotic timeout alert implemented at seven hospitals was largely ignored.
- This alert may be refined by limiting it to antibiotic orders with specific features associated with higher rates of discontinuation.