

Development, Implementation, and Preliminary Evaluation of a Pneumonia Treatment Quality Audit & Feedback System in an ICU (DIPLOMAT-ICU)

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Background

Pneumonia is the most common type of infection in the intensive care unit (ICU) and the leading cause of death from infectious disease.

Development of Quality Indicators (QIs) allows for measurement and internal benchmarking in order to monitor and improve patient care.

Audit & Feedback is the capturing of an individual's or group's performance over a specified period of time, which is then provided to the individual(s). The purpose is to provide the recipient(s) with awareness to ultimately increased compliance with desired practice.

Objectives

- To evaluate the end-user satisfaction with feedback reports describing ICU treatment of pneumonia;
- To evaluate end-user usability of feedback reports;
- To evaluate end-user perceptions of whether feedback reports help change prescribing practices for pneumonia, and;
- Using the piloted QIs, to describe the initial management practice, de-escalation practice, and duration of therapy for pneumonia in the ICU.

Methods

Design

- Quality improvement study:
 - Development of QIs and feedback preference by end-users
 - Implementation of Audit & Feedback (November 1st, 2019 to March 31st, 2020)
 - Evaluation of Audit & Feedback through an end-user survey (Qualtrics™)

Setting:

- Kelowna General Hospital (KGH) ICU

Inclusion:

- End-users: ICU Physicians having 1 or more years of experience in the ICU; willingness to participate; no conflict of interest with the study (n=9).

Figure 1. End-user survey results – Satisfaction
(I was satisfied with the ...)

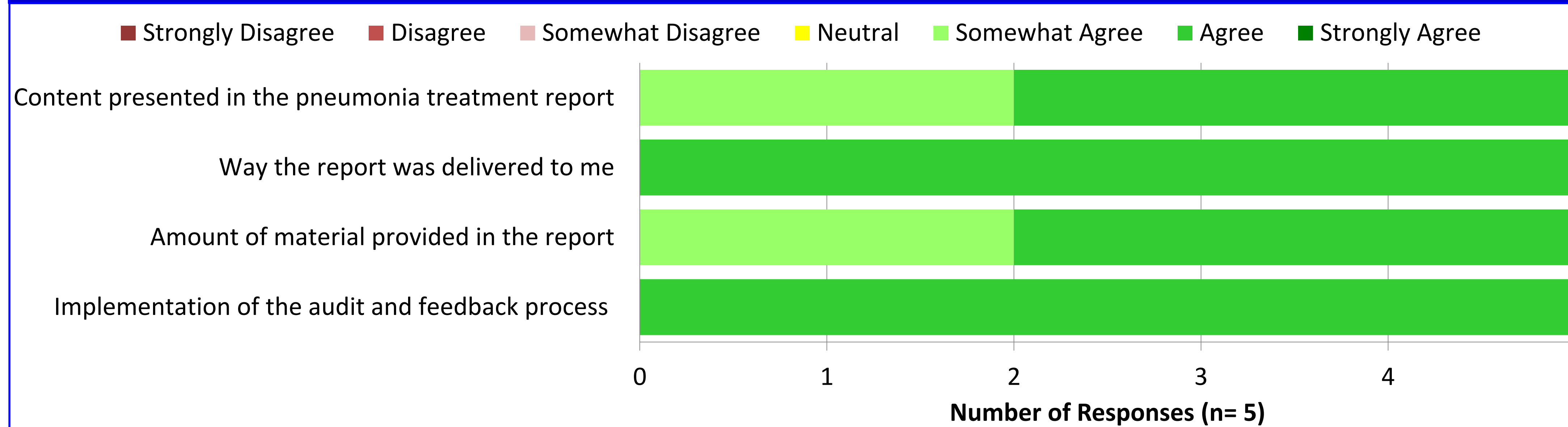


Figure 2. End-User Survey Results – Usability
(I think the reports are usable...)

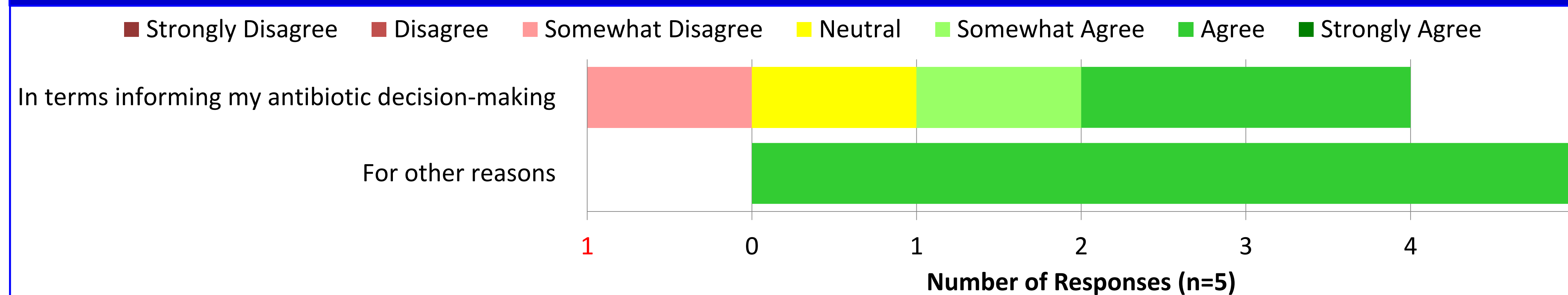


Figure 3. End-User Survey Results – Practice Changing
(Based on the reports from the audit and feedback for antibiotic use for pneumonia in the ICU I think..)

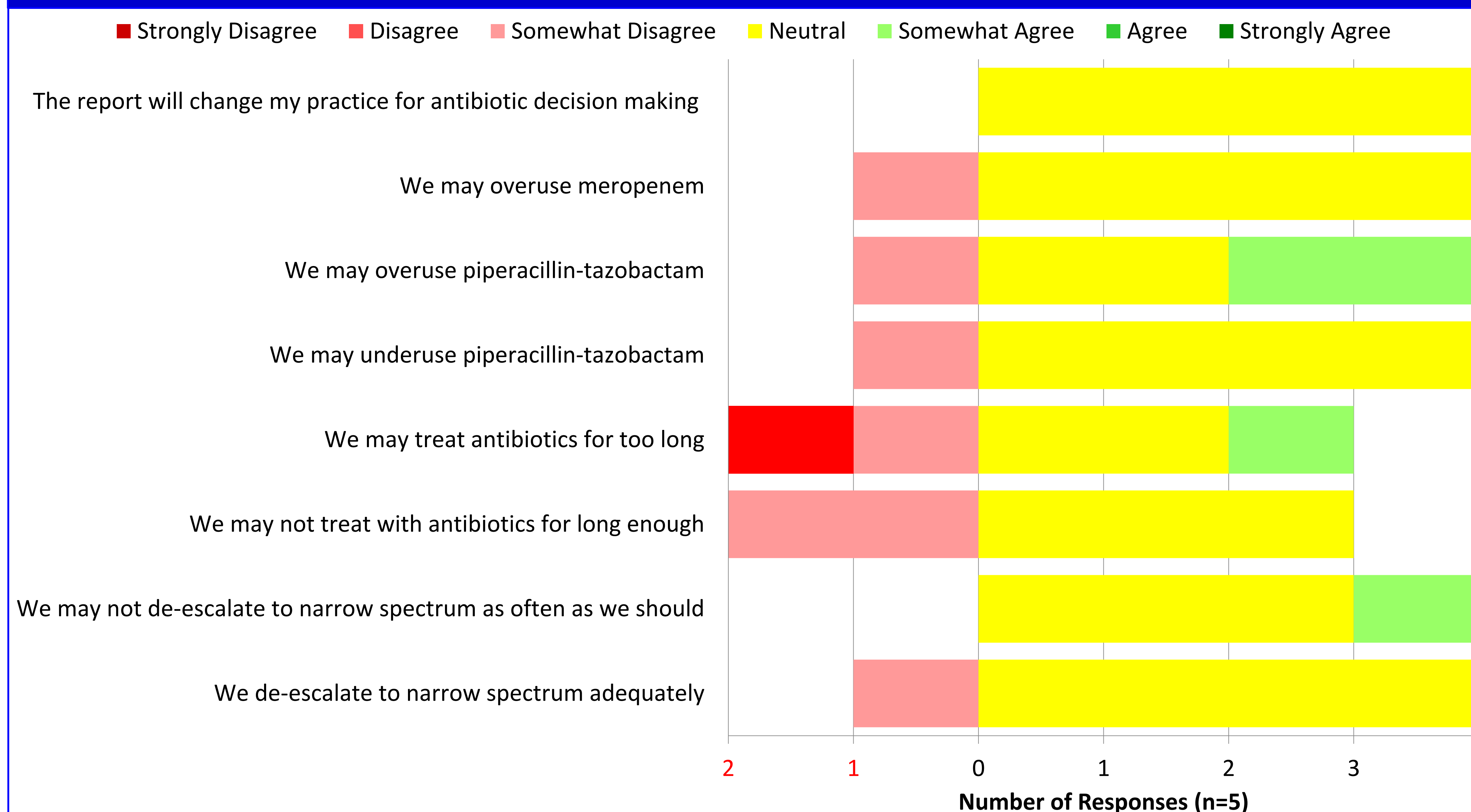
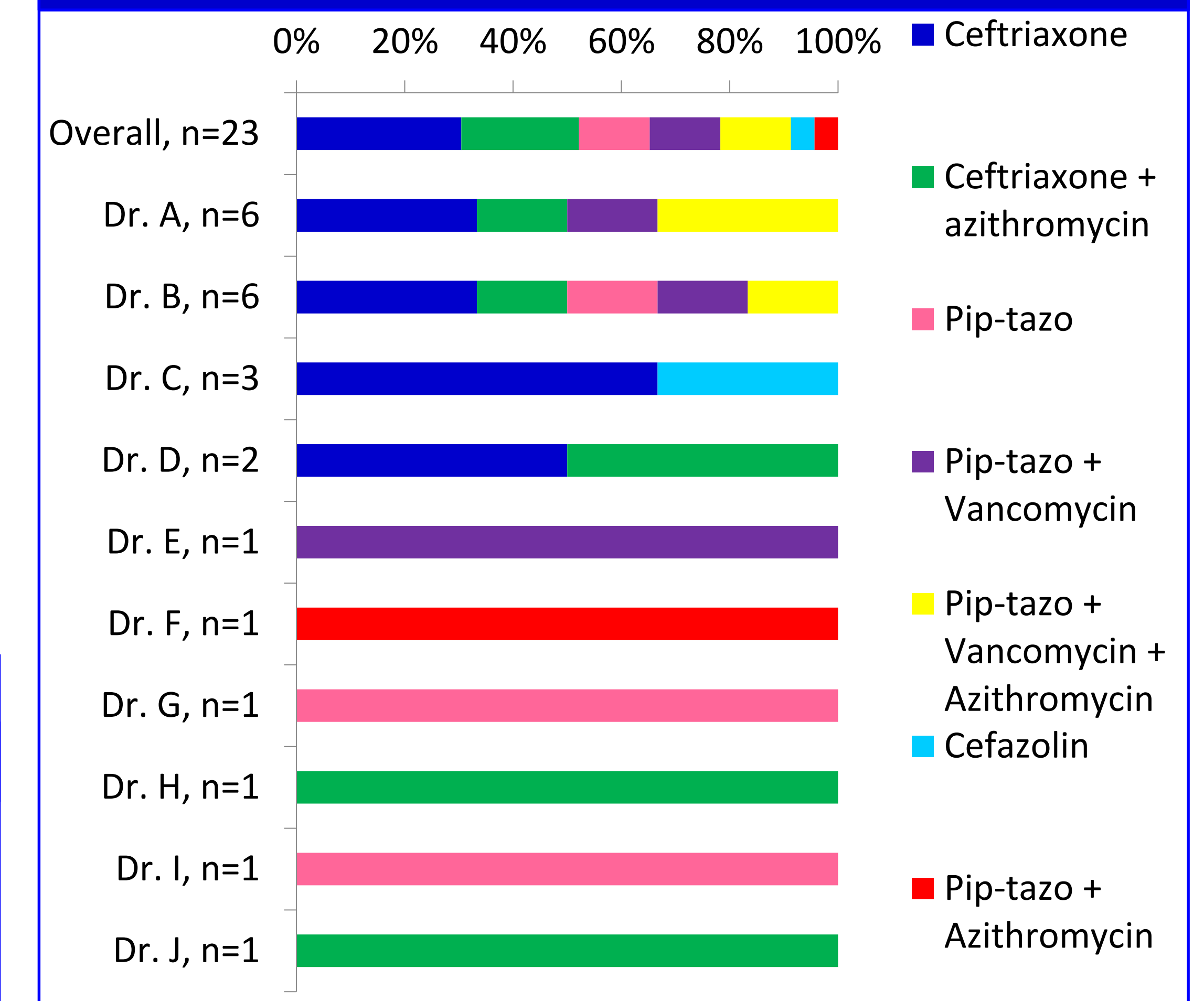


Figure 4. Example QI #1: Antibiotic Regimen Initiated for CAP



Discussion

Strengths:

- Established feedback preferences with end-users
- Pragmatic, real world data collected by clinical pharmacists as part of usual pharmaceutical care
- QIs are descriptive rather than evaluative
- Comparative audit and feedback among different prescribers

Limitations:

- Failure to recruit all physicians to complete survey
- Distribution of QIs was large because of several physicians
- QIs are not validated

Implication for Practice:

- Feedback was perceived as satisfactory
- Greater context may improve usability and perceptions of whether feedback reports help change prescribing practice

Future Initiative/Research

- Implementation of regular Audit & Feedback
- Develop proven intervention
- Expanded qualitative research
- Development guideline-derived consensus QIs.

Conclusion

End-users were satisfied by the feedback, but found its usability and perception to change prescribing practice uncertain.

