Impact and Sustainability of Antimicrobial Prescribing Feedback with Peer Comparison to Hospitalists in a Community Hospital

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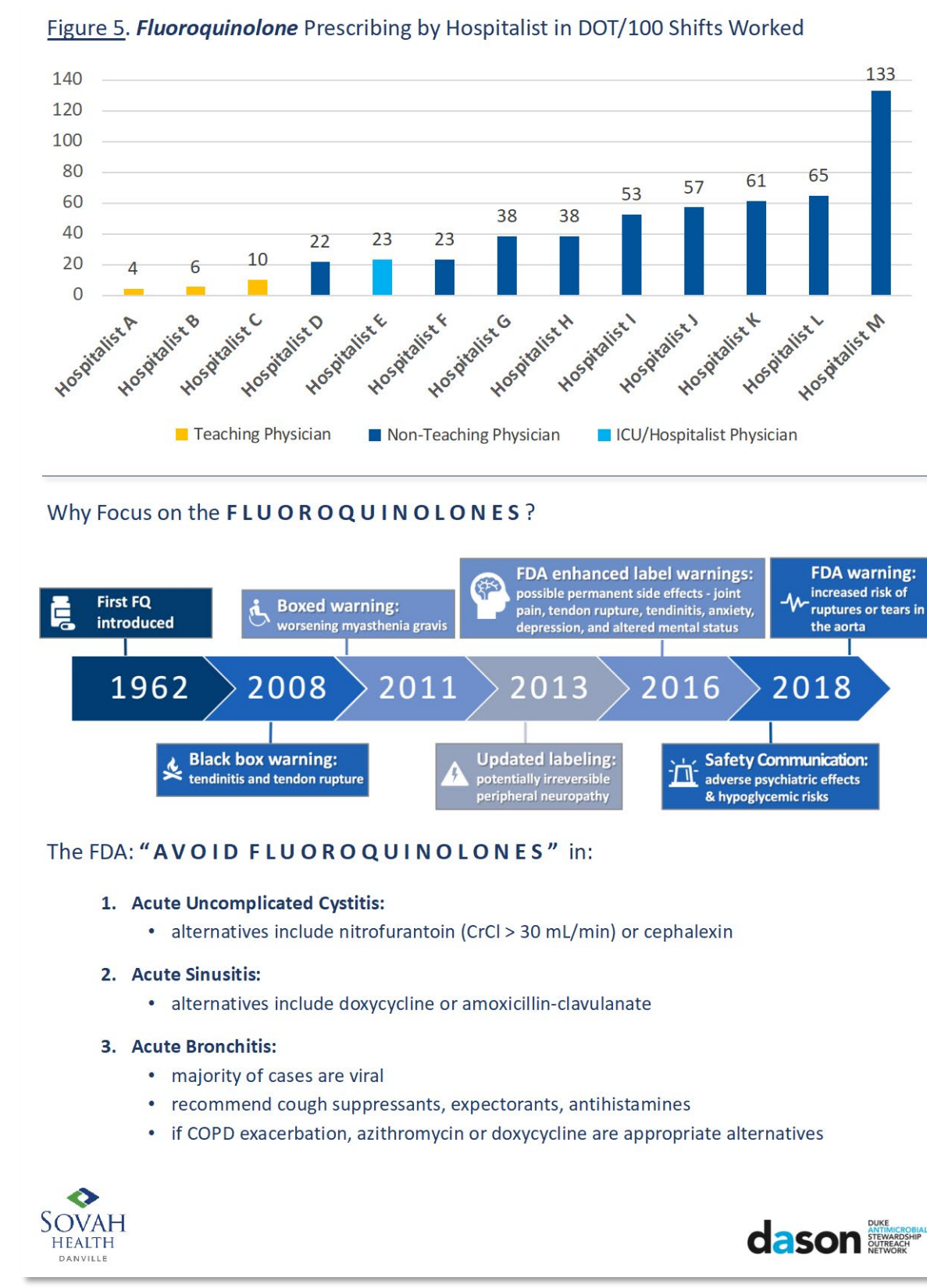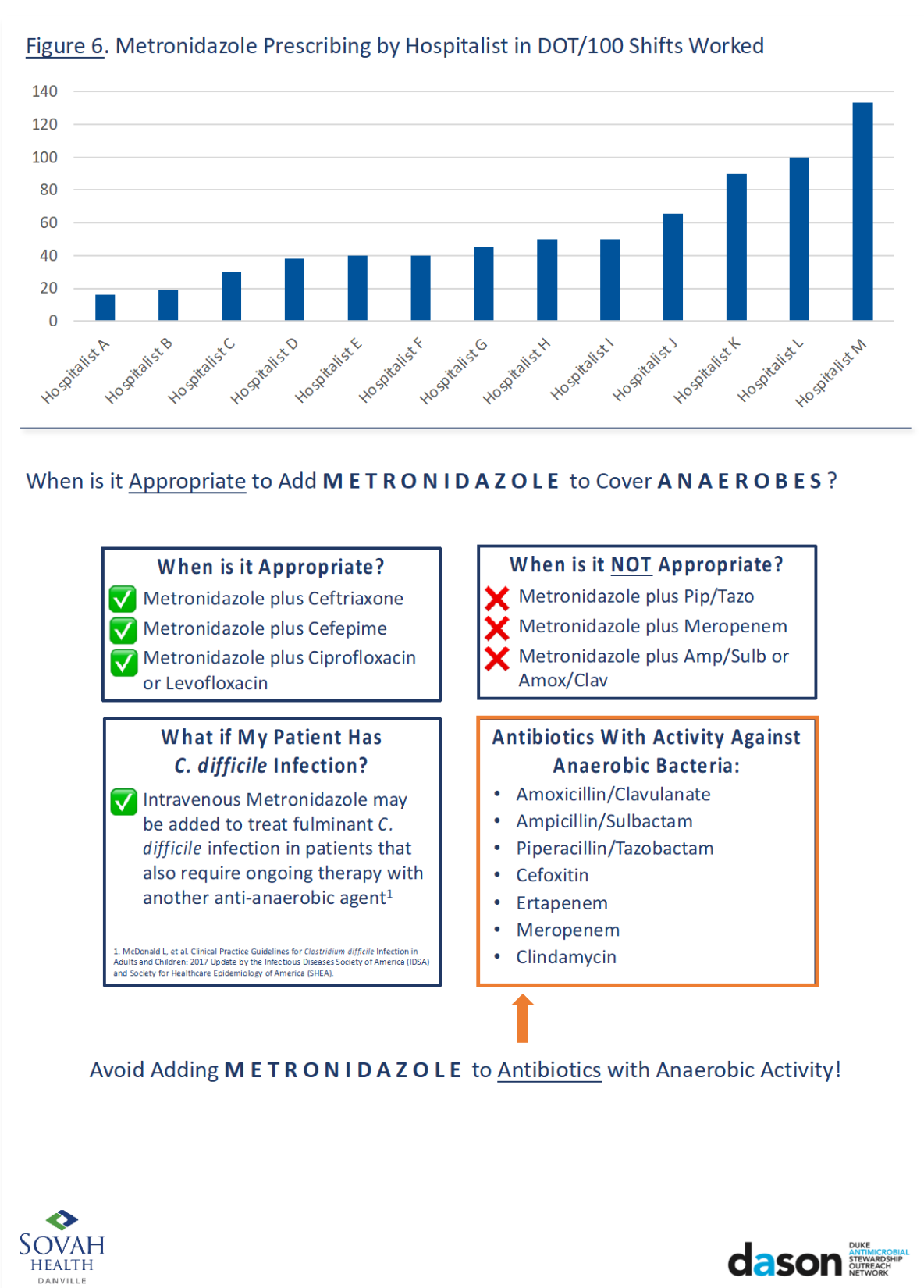
Background

- Antibiotic prescribing feedback with peer comparison has been shown to reduce antibiotic prescribing in the outpatient setting, but data regarding its impact in the acute care setting are lacking

- We previously developed novel denominator metrics to account for differences in work habits and patient volume when presenting prescriber feedback with peer comparison

- Using these novel denominator metrics, we presented antibiotic prescribing feedback with peer comparison and targeted education annually in small group sessions to hospitalist physicians throughout 2018-2021 and measured its impact on hospitalist-specific and facility-wide antibiotic prescribing

Methods

- Antibiotic days of therapy (DOT) for all antibiotics and targeted agents (aztreonam, antipseudomonal beta-lactams, vancomycin, and fluoroquinolones (FQ)) were obtained from the electronic medication administration record and linked to the ordering hospitalist using the DASON Antimicrobial Stewardship Assessment Portal (ASAP)

- Hospitalist-specific shifts worked data by month were calculated from scheduling reports shared by the hospitalist group's administration team

- Antibiotic prescribing reports were prepared using 6-months of prescribing data and presented in DOT/shifts worked in small group sessions in-person (4/2018, 4/2019, 3/2020, 11/2021) or virtually (9/2020) throughout 2018 – 2021

Methods

- These reports included targeted education for specific antibacterials of interest to the stewardship team based on current initiatives (e.g., aztreonam, metronidazole) as well routine education for certain broad-spectrum or toxic antibacterials (e.g., vancomycin, antipseudomonal beta-lactams, FQs)

- In addition, alternative therapy recommendations were provided for specific clinical scenarios based on locally-developed clinical guidelines and antibiogram data

- Hospitalist physicians were color-coded based on primary role (e.g., teaching versus non-teaching physician)

- Example prescribing feedback reports including 6-months of prescribing data are included below:

Figure 6. Metronidazole Prescribing by Hospitalist in DOT/100 Shifts Worked

Figure 5. Fluoroquinolone Prescribing by Hospitalist in DOT/100 Shifts Worked

Results

- During 5 small group sessions, 31 hospitalists received antibiotic prescribing feedback with peer comparison; time-trended data for FQ prescribing for 7 MDs with longitudinal data are shown in Figure 1

- In the month following feedback sessions, antibiotic use data demonstrated substantial reductions in FQ prescribing (Figure 2), and similar trends were observed among all targeted agents

- Facility-wide, targeted antibiotic use decreased 31% from 2017 to 2021 and was primarily driven by reductions in use by hospitalists

Figure 3. Time-trend of Facility-wide Targeted Agent Prescribing in DOT/1,000 Patient Days
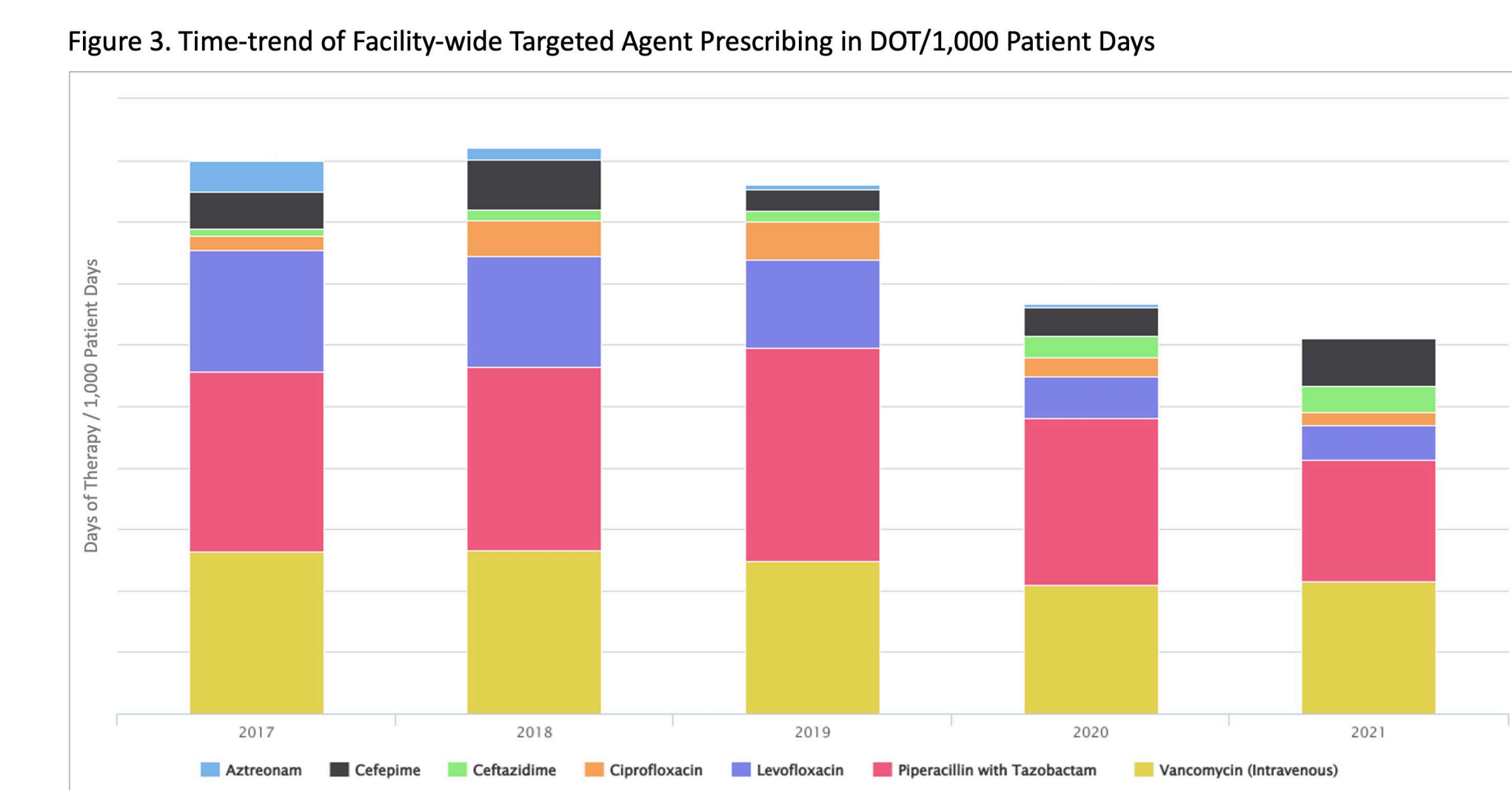

Figure 1. Time-trend of Fluoroquinolone Prescribing in DOT/Shifts Worked by Hospitalists
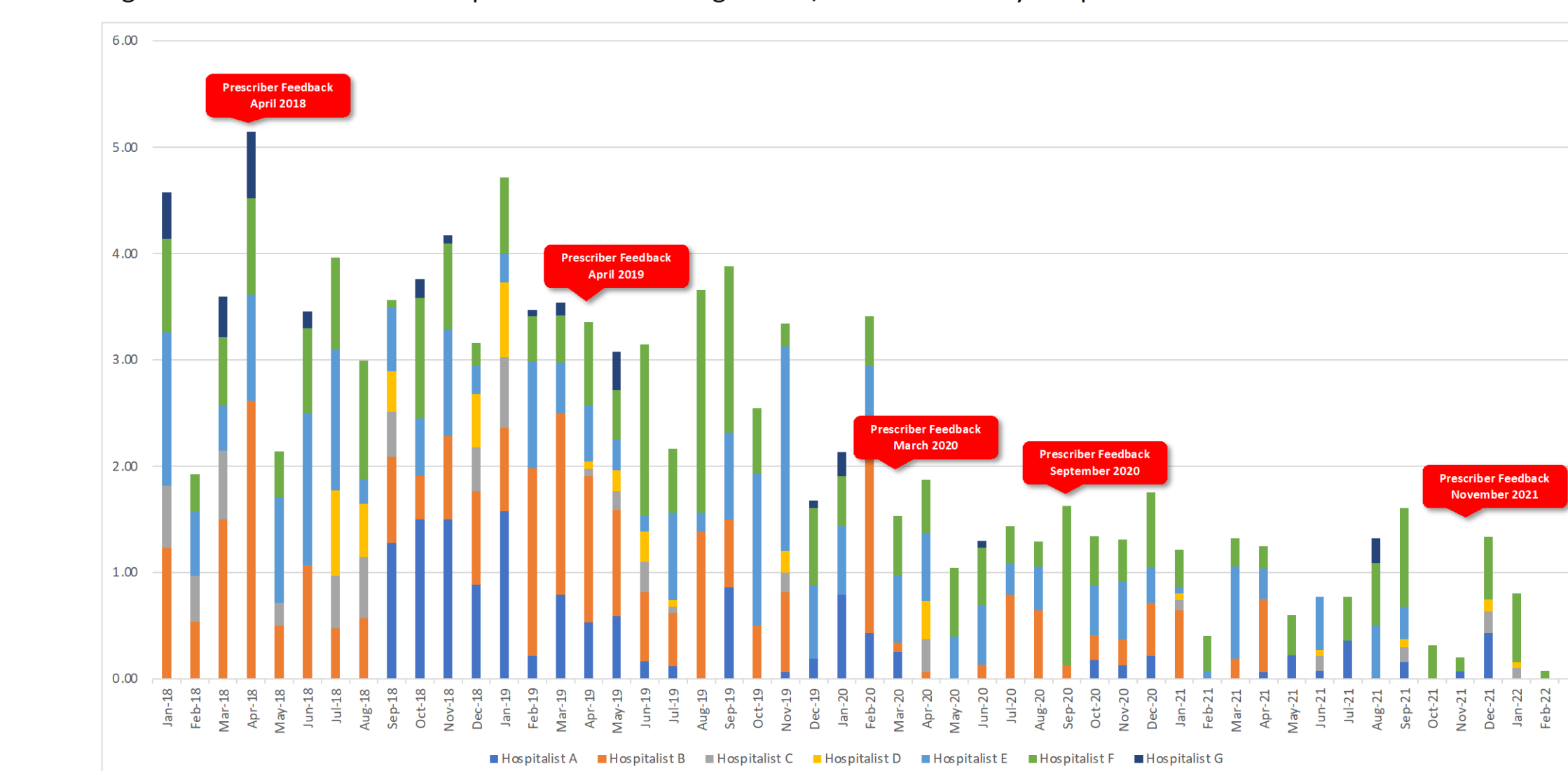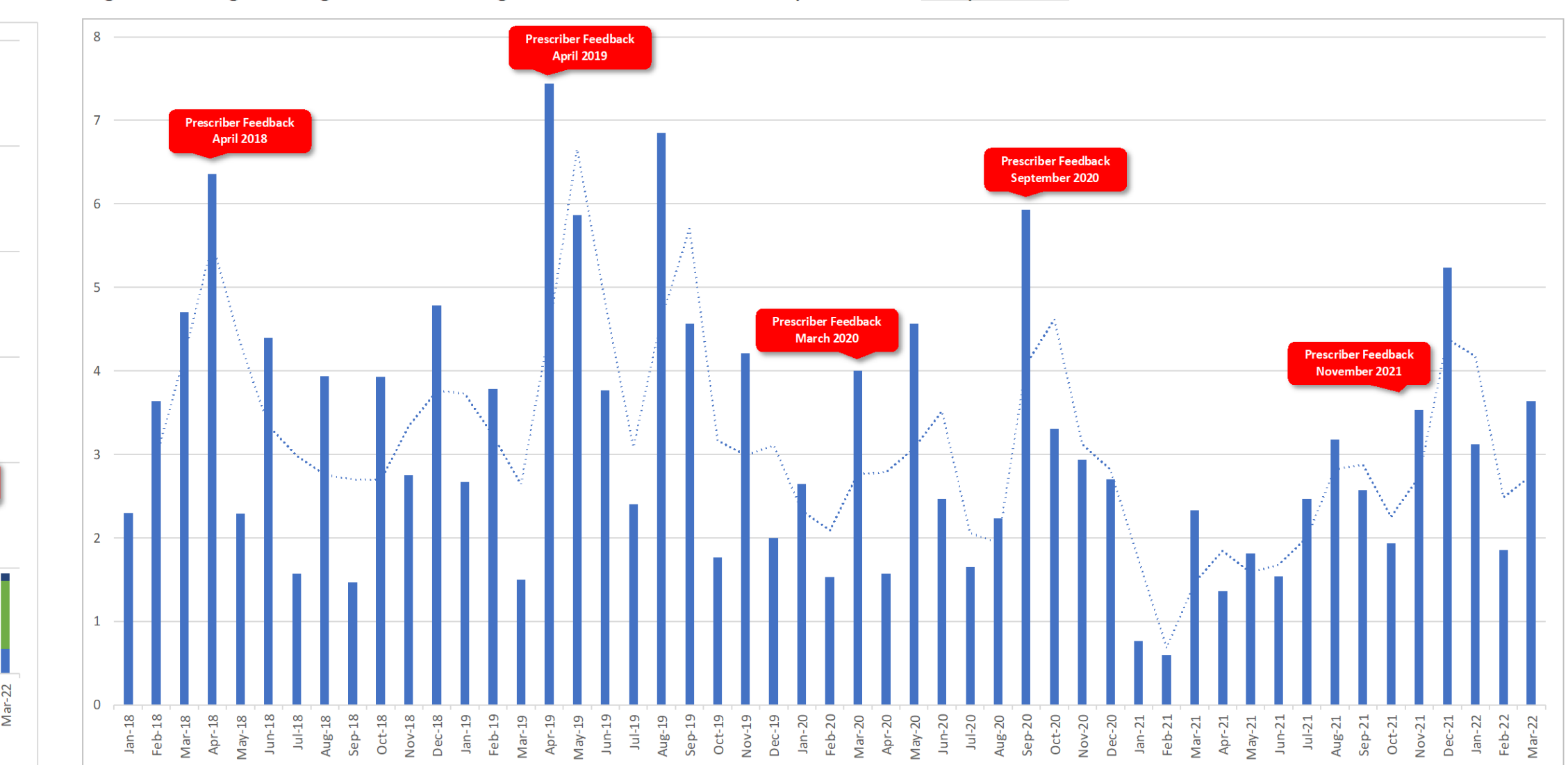

Figure 2. Targeted Agent Prescribing in DOT/Shifts Worked by Month – Hospitalist C

Conclusions

- Regular antibiotic prescribing feedback with peer comparison and targeted education was associated with a substantial reduction in targeted agent prescribing by hospitalists in our community hospital, contributing to a 31% facility-wide reduction in use of these agents