



Development and Assessment of Hospitalist-Specific Antimicrobial Scorecard



Julia Sessa, PharmD, BCIDP¹, Helen Jacoby, MD², Bruce Blaine, PhD, PStat³, Lisa Avery, PharmD, BCPS, BCIDP, FCCP^{1,4}

1. Department of Pharmacy, St. Joseph's Health, Syracuse, NY 2. Division of Infectious Diseases, Department of Medicine, St. Joseph's Health, Syracuse, NY
3. Department of Mathematics, Computer Science, and Statistics, St. John Fisher College, Rochester, NY 4. Wegmans School of Pharmacy, St. John Fisher College, Rochester, NY

301 Prospect Ave, Syracuse, NY 13202
Julia.Sessa@sjhsyr.org
Phone: (315) 448-5031
Fax: (315) 448-5322

Presentation Number: 898378

Background

- Measuring antimicrobial consumption data is a foundation of antimicrobial stewardship programs.¹⁻²
- There is data to support antimicrobial scorecard utilization to improve antibiotic use in the outpatient setting.³
- There is a lack of data on the impact of an antimicrobial scorecard for hospitalists.

Methods

- Quarterly quality improvement project
- Conducted in a 451-bed teaching hospital
- Included 22 hospitalists
- Utilized Horizon Business Insight (HBI) for antibiotic prescribing data
- Granted exempt status by the Institutional Review Board
- Inclusion criteria:**
 - Hospitalists that practice on a general medicine service unit
- Primary outcome:**
 - To improve antibiotic prescribing amongst the hospitalist service through the development of an antimicrobial scorecard
- Data collection:**
 - Physician information:
 - Gender
 - Years in practice
- Statistical analysis:**
 - Descriptive statistics were utilized to analyze pre-scorecard and post-scorecard data
 - P-value < 0.05 was considered statistically significant
- Scorecard contents:**
 - Antibiotic days of therapy/1,000 patient days (PD)
 - This was corrected for attending census.
 - Percentage of patients prescribed piperacillin-tazobactam (PT) for greater than 3 days
 - Route of antibiotic prescribing (% intravenous (IV) vs % oral (PO))

Scorecard Example

	Pre-scorecard	Post-scorecard	Change
PHYSICIAN	Antibiotic days of therapy/1,000 PD		
2	791	607	↓
5	691	615	↓
4	725	730	↑
1	723	742	↑
3	722	625	↓

	Pre-scorecard	Post-scorecard	Change
PHYSICIAN	% of piperacillin-tazobactam > 3 days		
2	31	16	↓
1	23	18	↓
4	22	10	↓
5	18	20	↓
3	13	6	↓

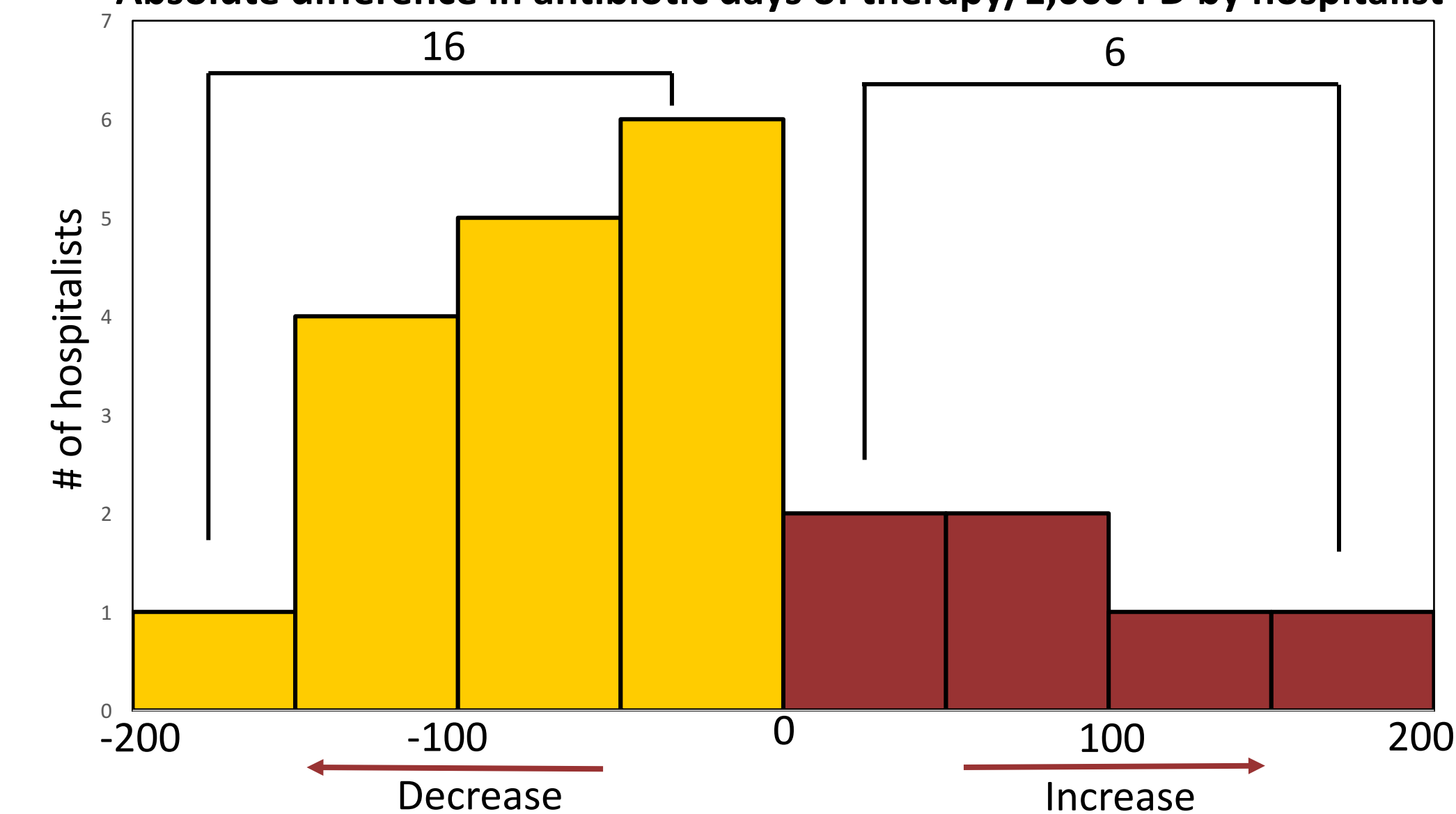
	Pre-scorecard		Post-scorecard		Change
PHYSICIAN	IV (%)	PO (%)	IV (%)	PO (%)	IV prescribing
1	81	19	71	29	↓
5	76	23	74	26	↓
2	76	24	77	23	↑
3	74	26	68	32	↓
4	74	26	78	22	↑

- The scorecard was distributed via e-mail to each hospitalist.
- Hospitalists received their data in rank order amongst their peers.
- The antimicrobial scorecard for 2019 was distributed in two phases.
 - Phase 1:** October 2019
 - Pre-scorecard:** Baseline prescribing data (January - September 2019)
 - Phase 2:** January 2020
 - Post-scorecard:** Impact of the scorecard on prescribing (October - December 2019)
- Recommendations from the antimicrobial stewardship team were included for hospitalists to improve their antibiotic prescribing for these initiatives.

Results

Category	Pre-scorecard Median (IQR)	Post-scorecard Median (IQR)	P-value
Antibiotic days of therapy/1,000 PD	661 (104)	618 (118)	0.043
% PT use > 3 days	18% (6%)	11% (6%)	0.017
% of IV antibiotic prescribing	71% (4%)	70% (6%)	0.560

Absolute difference in antibiotic days of therapy/1,000 PD by hospitalist



- 16/22 (73%) hospitalists improved their antibiotic prescribing from pre-scorecard to post-scorecard ($\chi^2(1)=3.68$, $p = 0.055$)
- No correlation was found between years of experience or gender and antibiotic prescribing change.

Conclusion

Providing antimicrobial scorecards to our hospitalist service resulted in a significant improvement in antibiotic days of therapy/1,000 patient days and piperacillin-tazobactam prescribing > 3 days

References

- Barlam TF, Cosgrove SE, Abbo LM, et al. Implementing an antibiotic stewardship program: guidelines by the Infectious Diseases Society of America and the Society for Healthcare Epidemiology of America. *Clin Infect Dis*. 2016;62:e51-77.
- Potlack LA, Srinivasan A. Core elements of hospital antibiotic stewardship programs from the Centers for Disease Control and Prevention. *Clin Infect Dis*. 2014;59(suppl 3):S97-S100.
- Stenehjem E, Wallin A, Fleming-Dutra KE, et al. Antibiotic Prescribing Variability in a Large Urgent Care Network: A New Target for Outpatient Stewardship. *Clin Infect Dis*. 2020 Apr 10;70(8):1781-1787.