

## Background

- Antibiotic resistance remains a significant health threat with an estimated 2.8 million infections and 35,000 deaths per year in the U.S.<sup>1</sup>
- Inappropriate and overuse of antibiotics is a major contributing factor to antibiotic resistance.<sup>1</sup>
- Antimicrobial stewardship (AS) is a coordinated strategy and effort to improve antibiotic prescribing and patient outcomes.<sup>2</sup>
- A statewide AS collaborative across five Delaware health systems\* with the mission to share best antibiotic prescribing practices and improve antibiotic use was formed.
- Provider-directed education is recognized as an important pillar of AS intervention per the Centers for Disease Control's Core Elements and Joint Commission medication management standards.<sup>2,3</sup>
- The statewide collaborative implemented a monthly continuing medical education (CME) quiz focusing on a wide range of clinical infectious diseases and AS topics.
- Quizzes consisted of five to 10 case-based and clinical pearl questions with evidence-based answers focusing on adult and pediatric patients in the acute care and ambulatory setting.
- Participants were awarded 1 hour CME credit.
- After 3 years of distributing the CME quizzes, we sought to assess the providers' perceptions of the quizzes and their impact on clinical practice.

\*ChristianaCare, Nemours Children's Health, Delaware, TidalHealth Nanticoke, Beebe Healthcare, Bayhealth

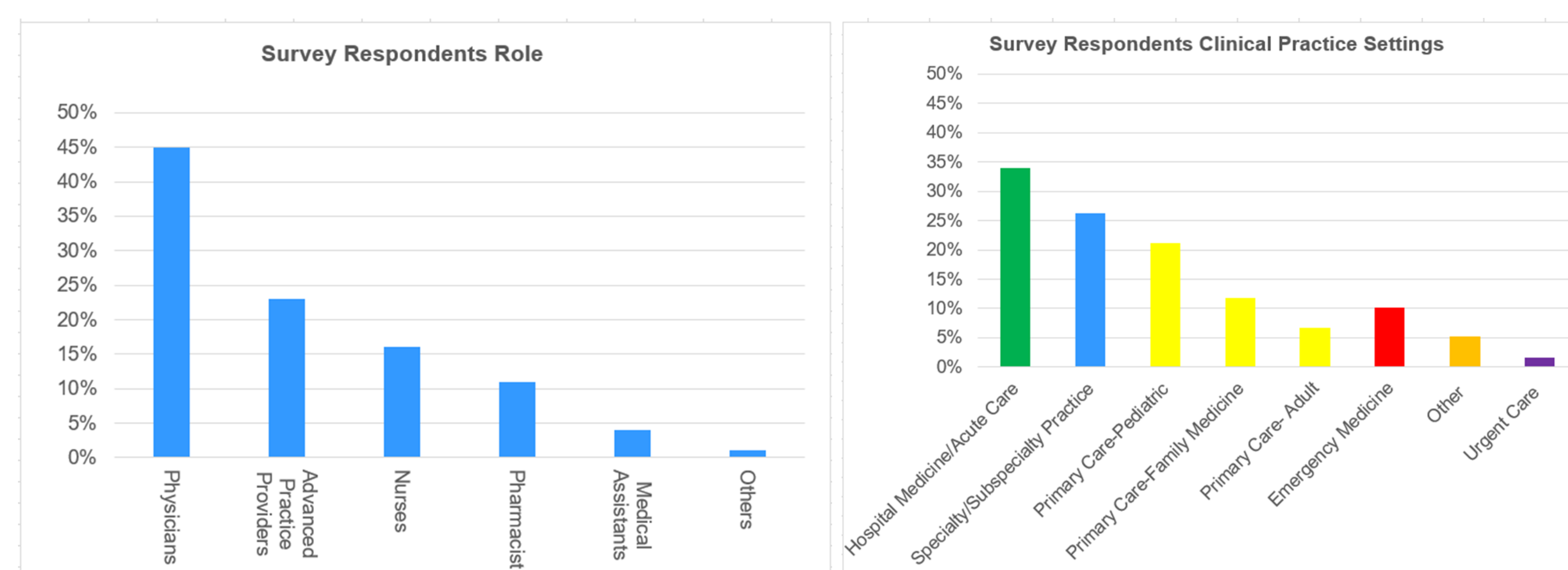
## Methods

- A nine-question survey was emailed to providers, pharmacists, and nurses.
- Questions regarding survey recipients' perceptions on the importance of antibiotic education and the impact that it has on their clinical practice were included.
- Data regarding practice settings and clinical roles were collected.

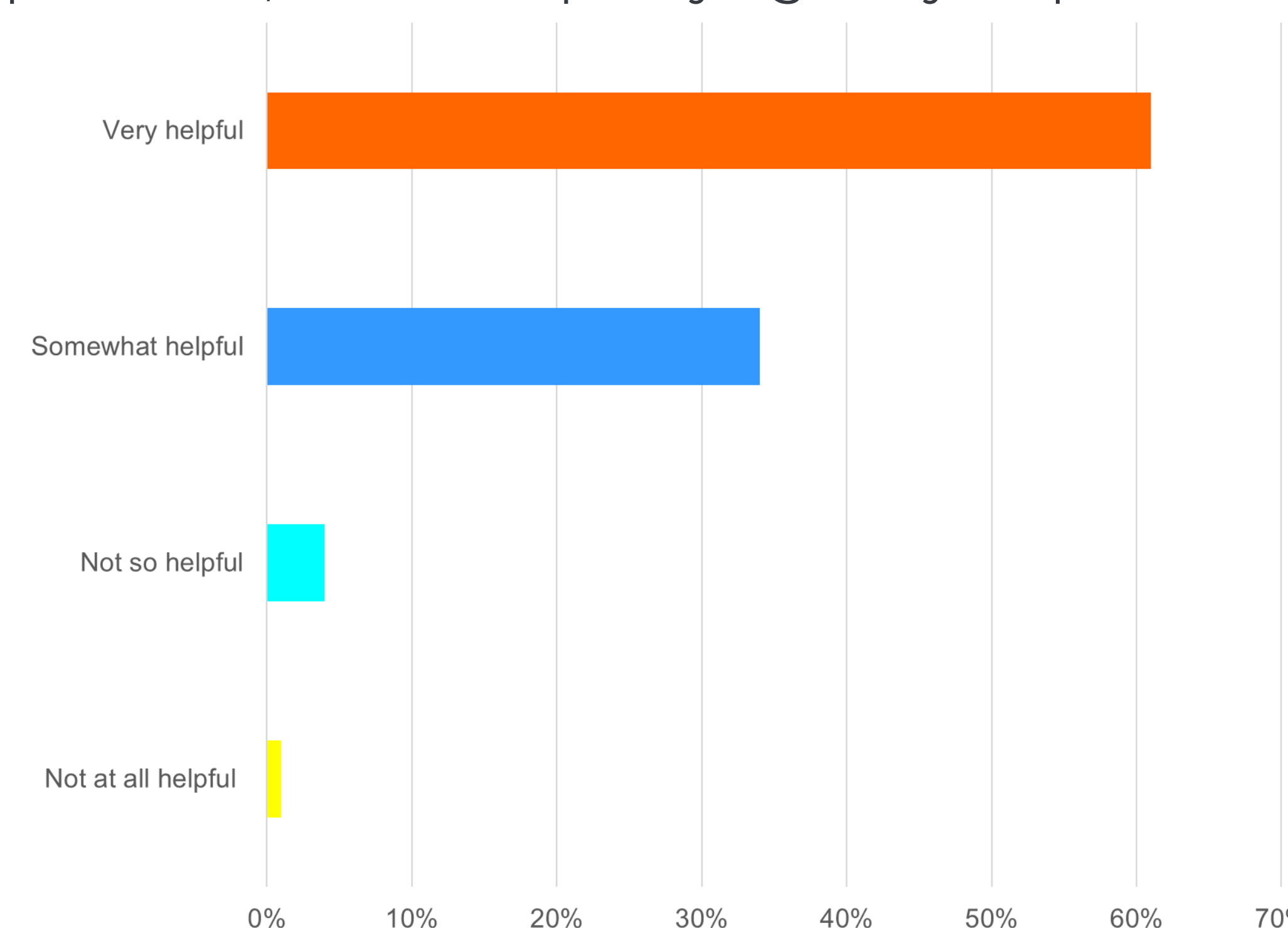


## Results

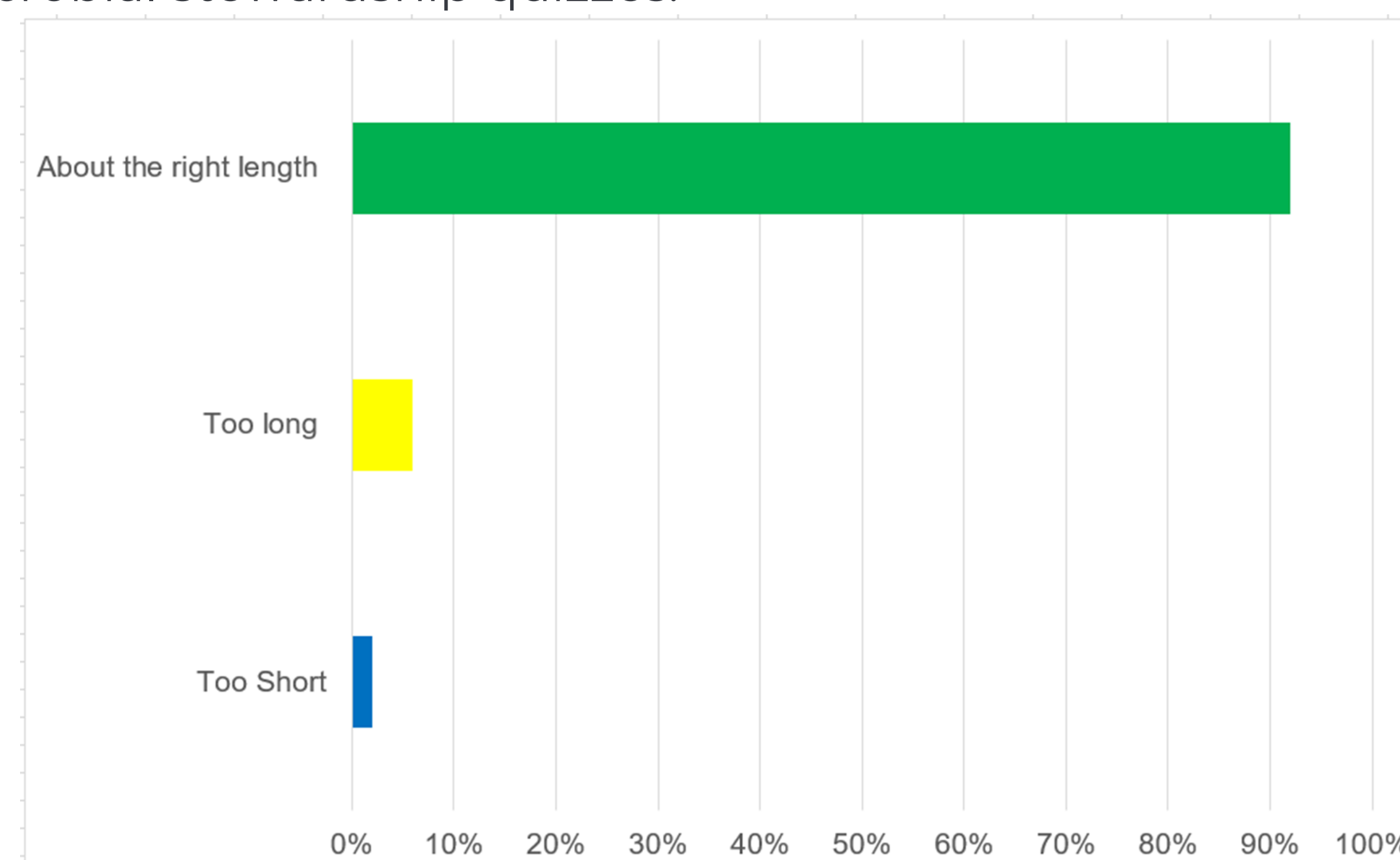
One hundred twenty respondents completed the survey.



The monthly quizzes were considered helpful in enhancing their practice in 95% of the respondents, with 61% specifying "very helpful."



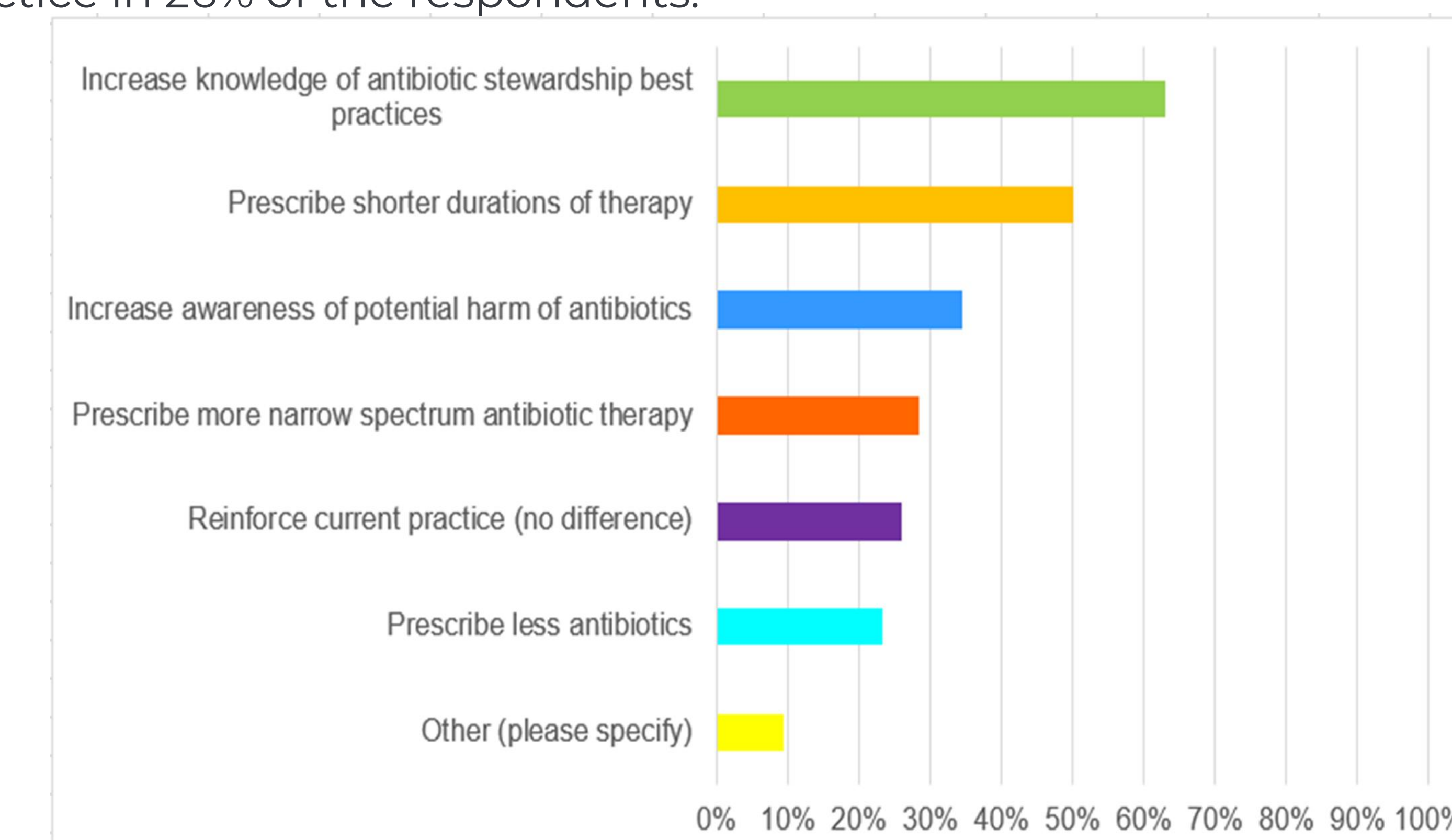
Respondents gave feedback on the length of time spent completing the antimicrobial stewardship quizzes.



## Results

### Impact of the antimicrobial stewardship program (ASP) quizzes on clinical practice

- More than 50% of the respondents believed that the ASP quizzes led to enhancement of their ASP knowledge.
- Fifty-eight (50%) respondents reported they prescribed shorter duration and 33 (29%) prescribed more narrow spectrum antibiotics.
- Twenty-seven (23%) respondents reported that they prescribed fewer antibiotics.
- Forty (35%) reported that they became more aware of the potential harm of antibiotics.
- The ASP quizzes did not influence but reinforced current prescribing practice in 26% of the respondents.



**Note:** Survey participants can select multiple responses

## Conclusions

- Provider-directed education is a core element of both ambulatory and acute care ASP.
- In this statewide initiative, using a monthly CME quiz circulated via email, providers were able to improve their knowledge and enhance their prescribing of antibiotics.
- Most providers perceived this format of education as helpful and described it as having a positive impact on their prescribing behavior.

## References

1. Centers for Disease Control and Prevention: Antibiotic Resistance Threats in the United States, 2019. Atlanta, GA, Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/drugresistance/pdf/threatsreport/2019-ar-threats-report-508.pdf>.
2. Centers for Disease Control and Prevention: Core Elements of Hospital Antibiotic Stewardship Programs. Atlanta, GA: US Department of Health and Human Services, CDC; 2019. Available at <https://www.cdc.gov/antibiotic-use/core-elements/hospital.html>.
3. The Joint Commission New and Revised Antibiotic Stewardship Requirements, 2022. Available at: [https://www.jointcommission.org/-/media/tjc/documents/standards/prepublications/effective2023/hap\\_jan2023\\_prepublication\\_report\\_antibiotic\\_stewardship.pdf](https://www.jointcommission.org/-/media/tjc/documents/standards/prepublications/effective2023/hap_jan2023_prepublication_report_antibiotic_stewardship.pdf).
4. Centers for Medicare & Medicaid Services: Condition of Participation, Infection Prevention and Control and Antibiotic Stewardship Program Interpretive Guidance Update, 2022. Available at: <https://www.cms.gov/files/document/qso-22-20-hospitals.pdf>.