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Assessing antibiotic utilization of an antimicrobial stewardship program for urinary tract infections at a long-term acute care facility based on the revised McGeer Criteria

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INTRODUCTION

- Antimicrobial stewardship programs promote appropriate antibiotic usage to prevent the overuse of antibiotics and antibiotic resistance
- The McGeer Criteria was updated in 2012, making the criteria for urinary tract infections (UTIs) more specific for residents with and without an indwelling catheter
- To prevent the treatment of asymptomatic bacteriuria, changes in urine characteristics were removed from the criteria
- Gwinnett Extended Care Center (GECC), an 89-bed long-term care facility, implemented the new McGeer Criteria

OBJECTIVES

- Examine antibiotic utilization (frequency and duration) of UTIs at a long-term care facility
- Assess the percentage of antibiotic initiation based on the revised McGeer Criteria

METHODS

- Cross-sectional, retrospective chart review at GECC
- From March 1, 2016 to May 31, 2017, 75 patients were included based on the revised McGeer Criteria¹ that were reviewed by the Infection Control Nursing Administrator and treated for a UTI
- The revised McGeer Criteria was used to assess appropriate antibiotic use
- One patient was excluded for treatment of pneumonia
- One patient was excluded for receiving ongoing UTI prophylaxis
- Descriptive analysis were used

Table 1: Background Characteristics (n=73)

Average Age	84.4 years
Males	18 (24.7%)
Females	55 (75.3%)
Foley Catheter Present	6 (8.2%)

Table 3: Outcomes (n=73)

Average Treatment Duration	7.6 days
Antibiotic Changed After Urine Culture	15 (21.4%)
Met Criteria for Antibiotic Initiation*	31 (43.1%)

* Unable to determine if one patient met the revised McGeer Criteria

RESULTS

Table 2: Urinalysis* (n=73)

WBC**	65 (95.6%)
Leukocyte Esterase	65 (94.2%)
Nitrites	33 (47.8%)

* Unable to obtain 4 patients' urinalysis

** Defined as >5 WBC/hpf. For one urinalysis, WBC count was not reported

Figure 1: Number of Microorganisms per Urine Culture

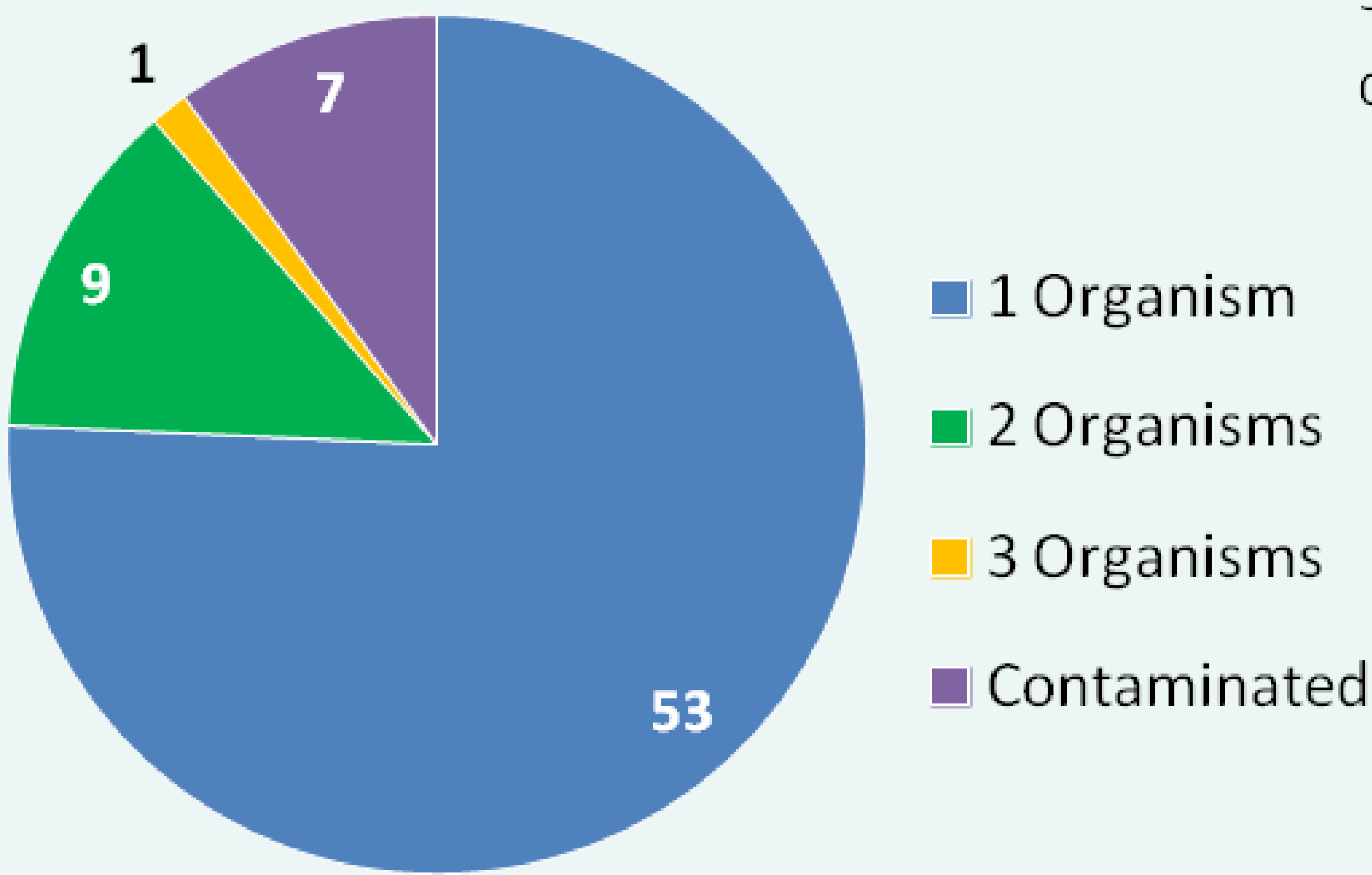


Figure 3: Number of Antibiotics Used per Patient

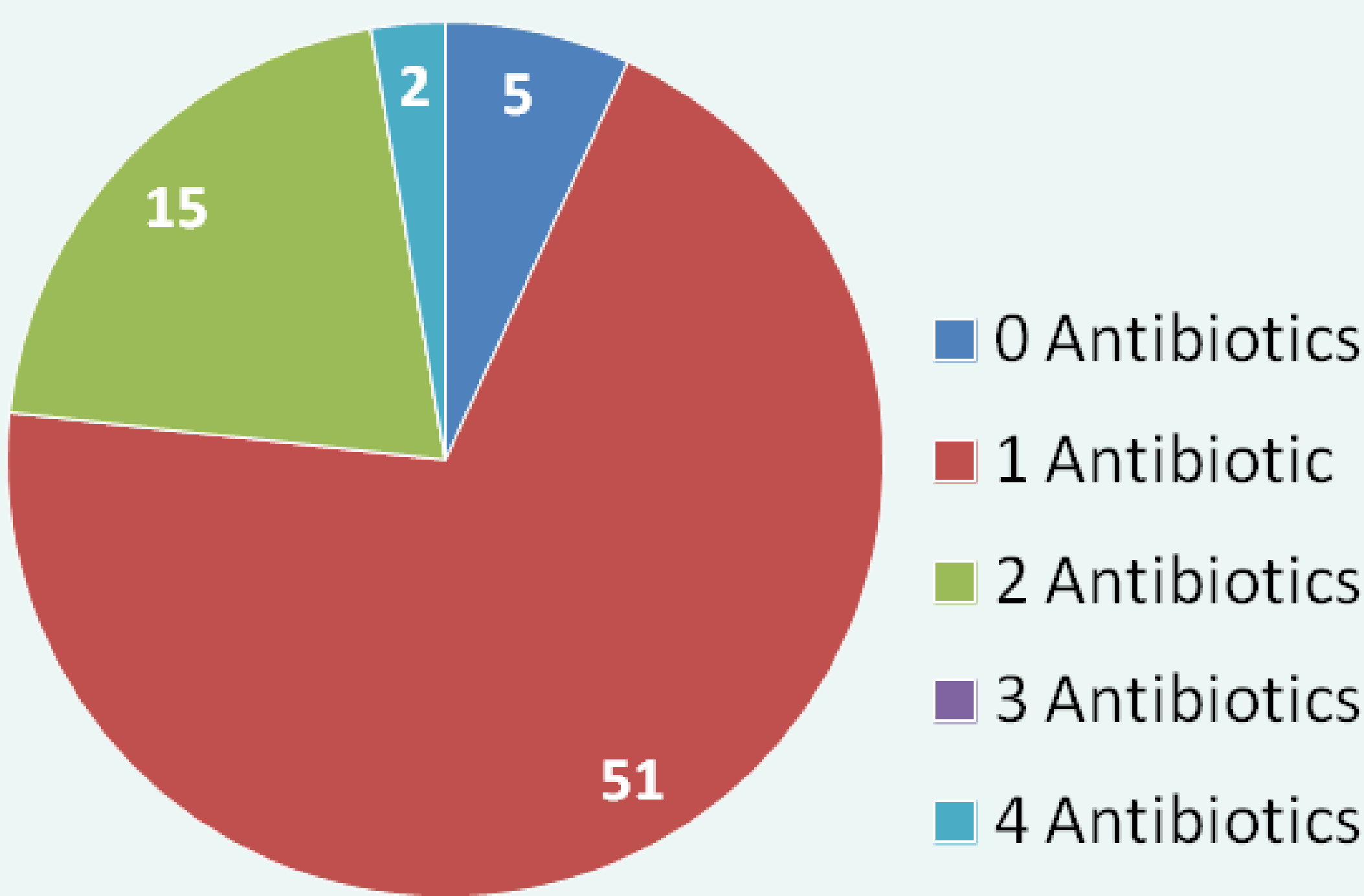


Figure 2: Microorganisms Isolated From the Urine Culture

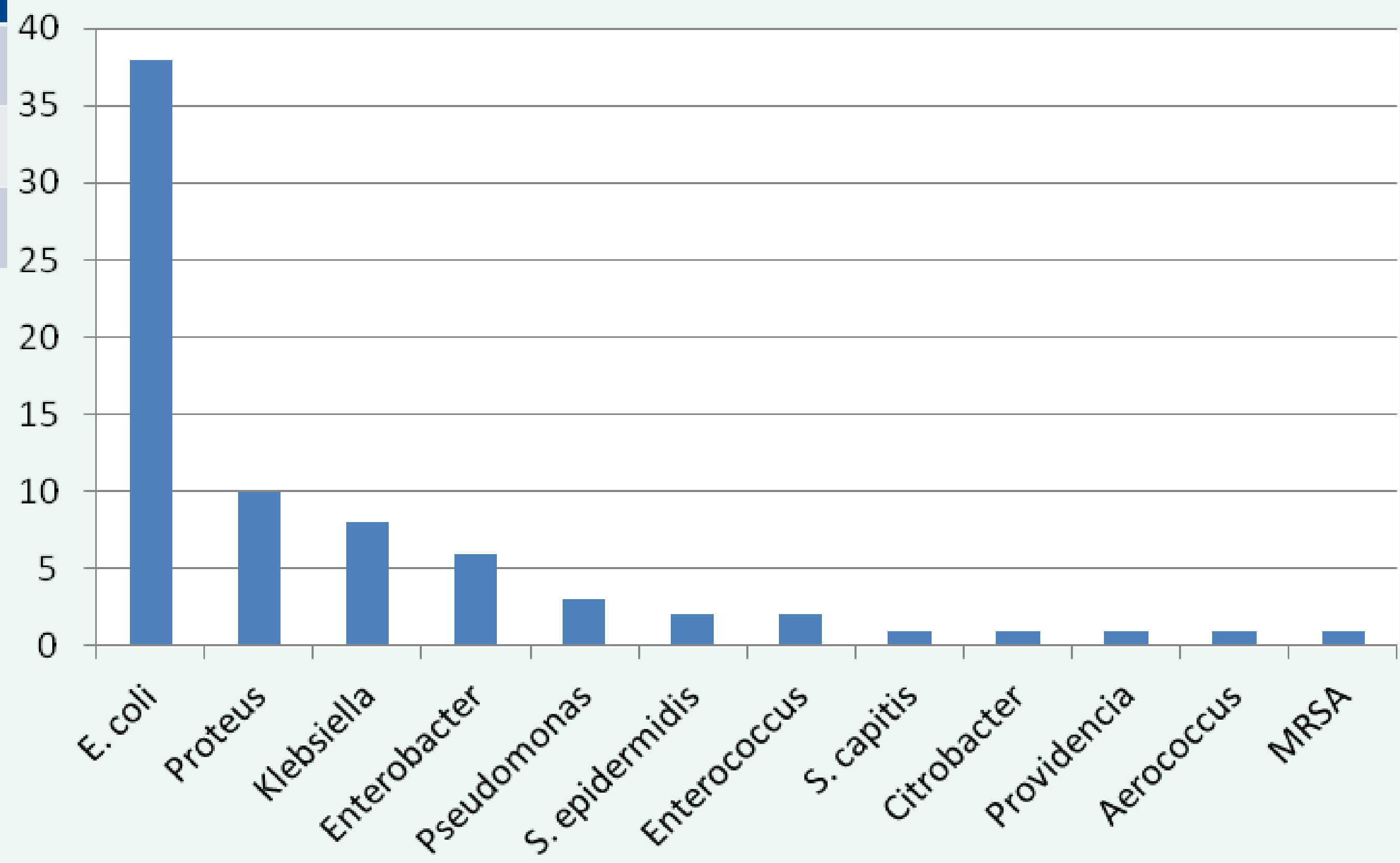
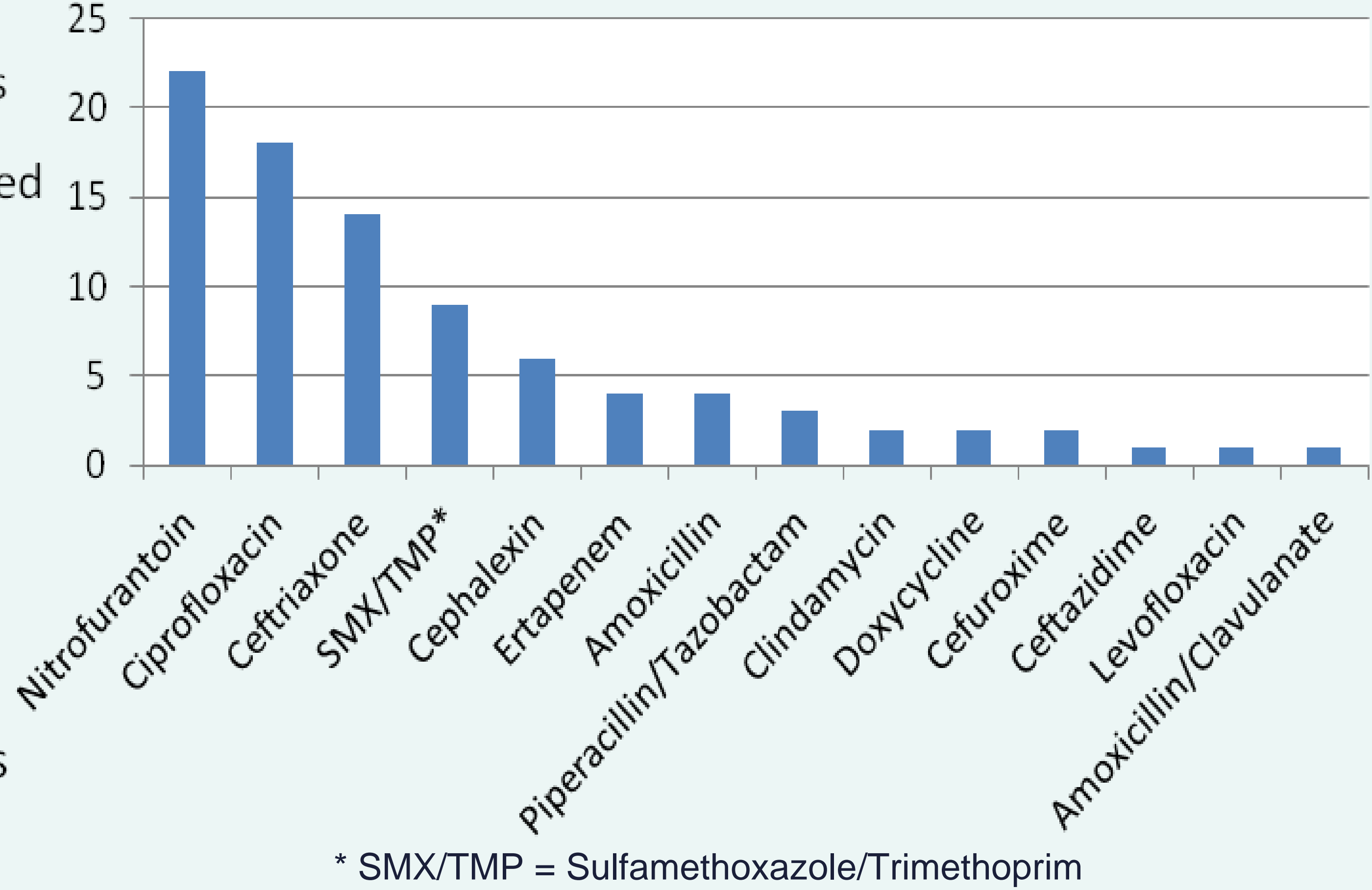
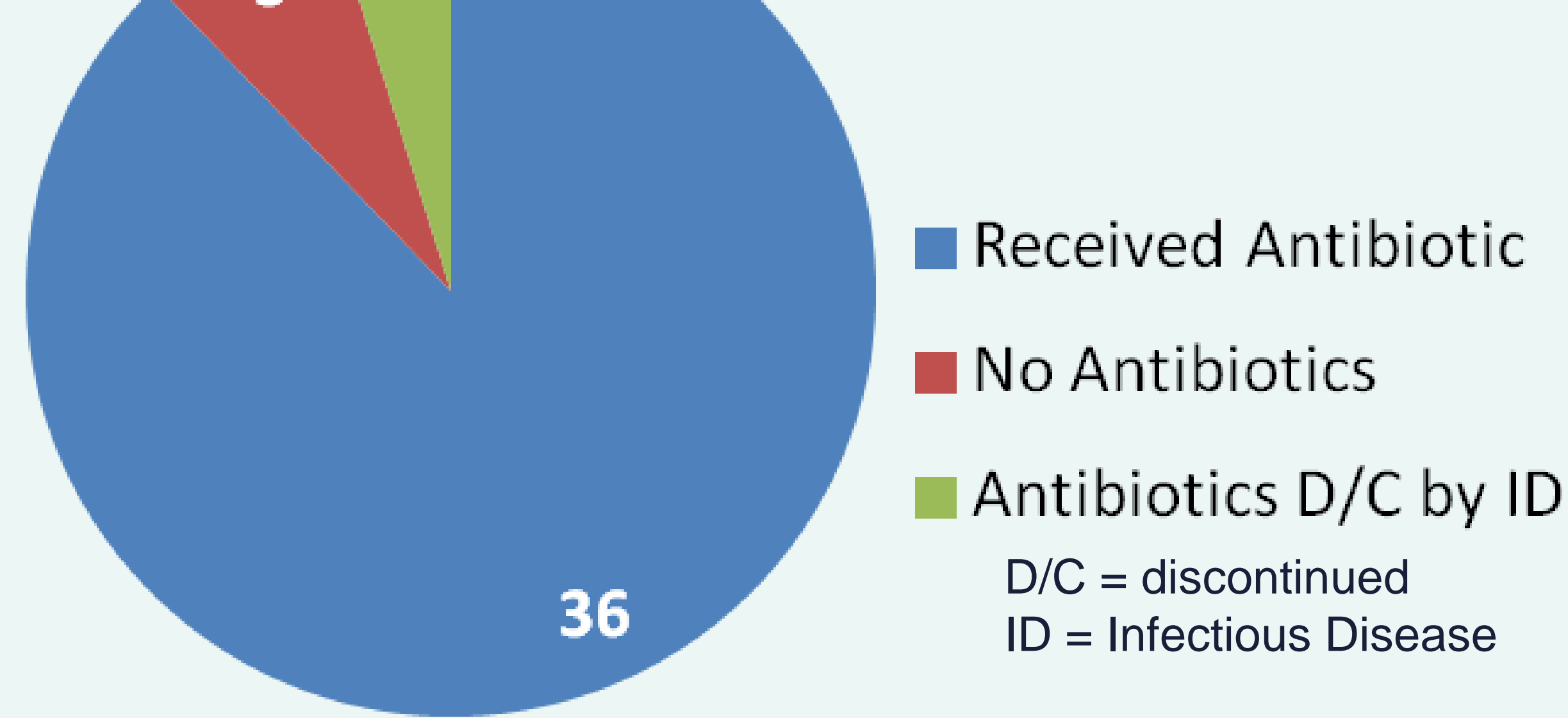


Figure 4: Antibiotics Utilized



* SMX/TMP = Sulfamethoxazole/Trimethoprim

Figure 5: Patients That Did Not Meet the McGeer Criteria for Antibiotic Initiation (N=41)



D/C = discontinued
ID = Infectious Disease

CONCLUSION & DISCUSSION

- Differentiating between a UTI and asymptomatic bacteriuria may prove difficult² because they may present similarly^{1,2,3}
- Asymptomatic bacteriuria treatment may improve short-term outcomes; however the effect is not sustained, and there is no improvement in morbidity and mortality³
- Therefore, asymptomatic bacteriuria treatment is unnecessary as it contributes to the inappropriate overuse of antibiotics and may promote antibiotic resistance^{3,4}
- McGeer Criteria on UTIs can help to facilitate appropriate antibiotic usage as part of an antimicrobial stewardship program for treating a true UTI at long-term care facilities
- Approximately 43% of patients had antibiotics initiated appropriately; therefore, utilize the revised McGeer Criteria along with other stewardship efforts would improve appropriate use of antibiotics in long-term acute care patients

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DISCLOSURES

- Erish Malonzo, Samuel John, Marilyn Swindall, Kumar Mukherjee, Edo-abasi McGee: Nothing to disclose