

Antibiotic Stewardship in Primary Care

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Introduction

- The Centers for Disease Control and Prevention (CDC) estimates 30% of all antibiotics prescribed yearly are unnecessary.
- Unnecessary antibiotic use leads to antibiotic resistance, untreatable infections, and increased morbidity and mortality.
- Antibiotic stewardship interventions decrease unnecessary antibiotic prescribing.

Problem

- Cape Primary Care (CPC) is a primary care clinic within a nonprofit healthcare system in southeastern Missouri.
- Providers at the clinic expressed frustration with perceived unnecessary antibiotic use within organization.
- Retrospective chart review showed baseline antibiotic prescribing rate for specified respiratory tract infections (RTIs) was 41.67%.

Aim

- Implement antibiotic stewardship interventions to decrease rate of antibiotic prescriptions from 41.67% to less than 20% in 4 weeks for adult patients with RTIs at CPC.

Objectives

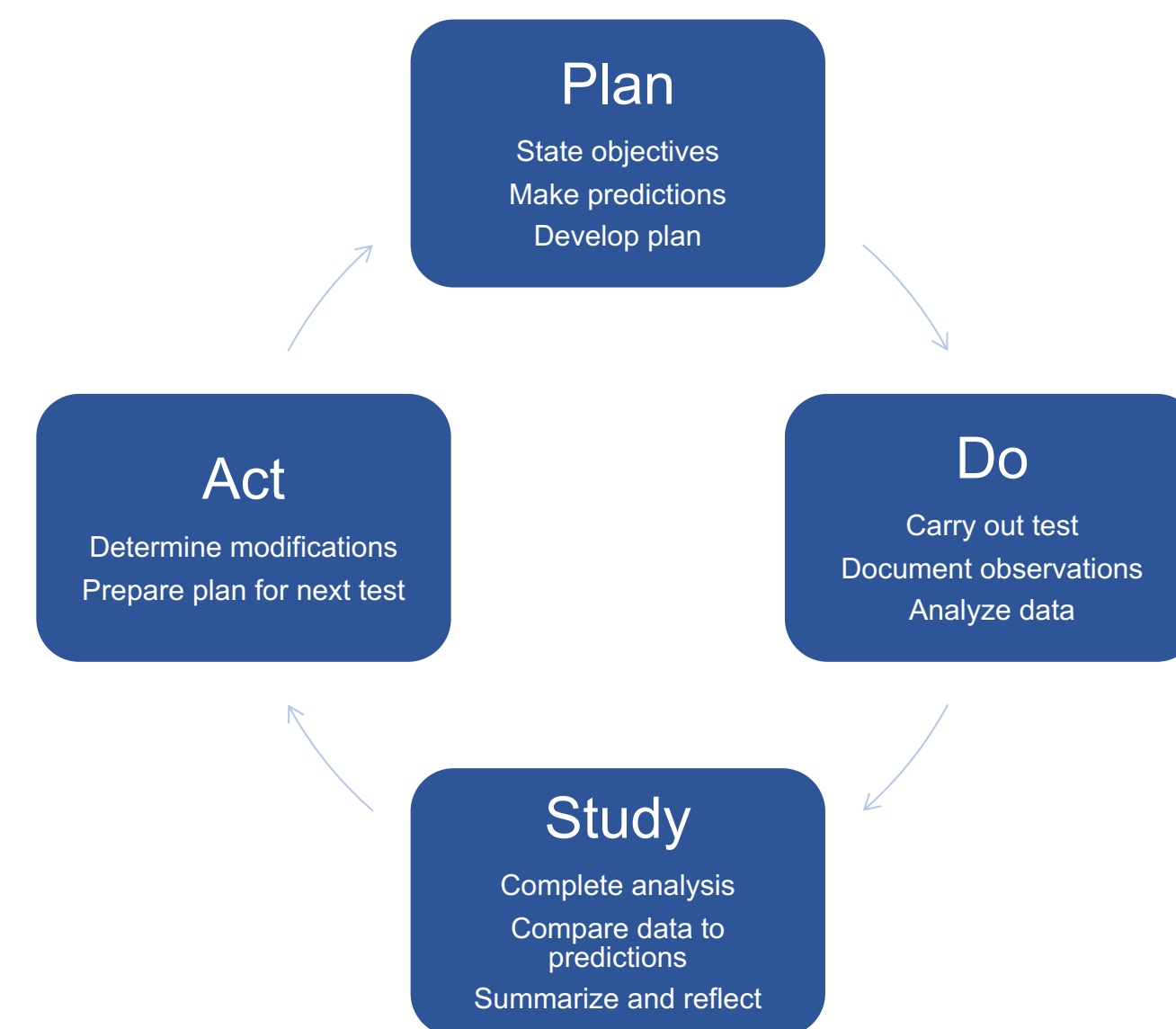
- Determine provider views on antibiotic use and antibiotic stewardship interventions within the clinic.
- Implement antibiotic stewardship intervention at CPC for 4 weeks.

Methods

- Plan:
 - Conduct literature review to determine evidence on antibiotic stewardship interventions and effects.
 - Conduct retrospective chart review to establish baseline prescribing rate within CPC clinic.
- Do:
 - Conduct pre-and post-intervention survey of providers.
 - Develop and implement antibiotic stewardship intervention to decrease the rate of unnecessary antibiotic prescribing using the CDC "Be Antibiotics Aware" campaign.
 - Conduct retrospective chart review of intervention period.
- Study:
 - Compare data from baseline to intervention period to determine change in rate of antibiotic prescribing.
 - Analyze pre- and post-intervention survey data.
- Act:
 - Disseminate outcomes to CPC providers and clinic manager.
 - Determine changes to intervention and repeat PDSA cycle.

Included Visits

- Qualifying visits included in chart reviews: adults presenting to CPC with RTI symptoms and diagnosed with common cold or nasopharyngitis, acute bronchitis, unspecified Upper Respiratory Infection (URI), unspecified Lower Respiratory Infection, COVID-19, or unspecified pharyngitis.
- Exclusion criteria: abnormal chest x-ray, positive streptococcal testing, specified co-morbidities, immunocompromising conditions, or diagnosis of otitis media or sinusitis.



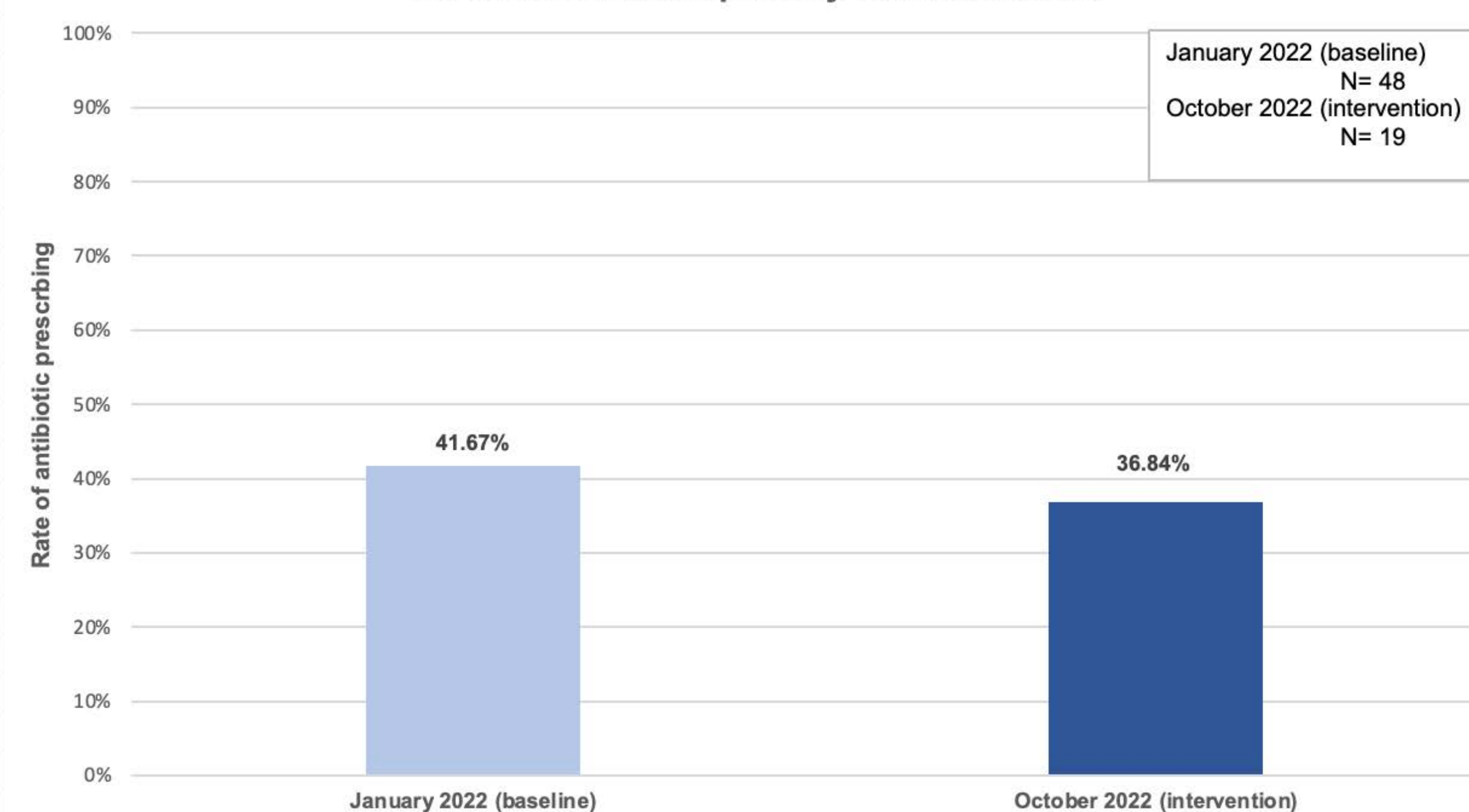
Unnecessary antibiotic use leads to antibiotic resistance, and increased morbidity and mortality.

Antibiotic stewardship decreases unnecessary antibiotic use.

Provider education and patient education materials are effective interventions.

Increased and sustained antibiotic stewardship efforts are necessary to further improve antibiotic use.

Antibiotic Prescribing Rate at Cape Primary Care for adults with Respiratory Tract Infections



Intervention Materials

- CDC Adult Outpatient Antibiotic Treatment Guidelines: most recent antibiotic prescribing guidelines for adults in outpatient settings, including bronchitis and unspecified upper respiratory infections.
- CDC "Be Antibiotics Aware" patient education materials: poster describing viral versus bacterial infections, poster describing appropriate antibiotic use, poster pledging commitment to improving antibiotic use, and handout specifying symptomatic treatment for viral illness.
- Weekly emails to providers including educational videos, training activities, role-play simulation, and CDC training modules.

Results

- Baseline antibiotic prescribing rate for qualifying visits was 41.67% in January 2022.
- Pre-intervention survey: providers believe unnecessary prescribing is due to lack of patient education, concern for patient satisfaction, and patient expectations.
- Intervention antibiotic prescribing rate for qualifying visits was 36.84% in October 2022.
- Post-intervention survey: providers believe that stewardship efforts decreased antibiotic prescribing.
- Intervention somewhat decreased antibiotic prescribing for adult patients with RTIs at CPC.






Limitations

- Limited duration of intervention.
- Self-reported interaction with intervention material by providers.

Clinical Implications

- The implications of this project are the need for further and sustained antibiotic stewardship efforts within the clinic.
- Next test of change should include revised antibiotic stewardship interventions.
- Literature review suggests that peer comparison and personalized audit and feedback may be impactful strategies for antibiotic stewardship.
- Provider surveys indicate that use of printed patient education materials should be continued within the clinic.

Intervention Materials

-  CDC Adult Outpatient Antibiotic Treatment Guidelines
-  Virus or Bacteria poster
-  Antibiotics Aren't Always the Answer poster
-  Commitment to Improving Antibiotic Use
-  Symptom Relief for Viral Illness handout

References

