

**An Antibiotic Stewardship Program for Sinusitis in an Urgent Care Setting: A Quality
Improvement Project for Advanced Practice Providers**

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REDUCTION OF ANTIBIOTICS BY APPS FOR SINUSITIS

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Abstract

Introduction: Sinusitis is commonly diagnosed in the urgent care setting. According to evidence-based practice guidelines, most cases do not require antibiotics. Current clinical practice guidelines support a target antibiotic prescribing rate of less than 12% for upper respiratory infections, such as sinusitis. Inappropriate antibiotic usage can cause adverse effects, ranging from mild rashes and gastrointestinal distress to life threatening antibiotic resistance and colitis. In the chosen network for this project, 56.9% of patients received antibiotics when diagnosed with sinusitis between April and September 2023.

Methods: All non-physician advanced practice providers (APPs) within the urgent care network were invited to view an educational PowerPoint presentation regarding current evidence-based practice guidelines for sinusitis. Participation in the intervention was voluntary and anonymous. Post-intervention prescribing patterns were evaluated to determine the efficacy of the intervention.

Results: The results of the intervention demonstrated a statistically significant reduction in antibiotics prescribed by APPs for the diagnosis of sinusitis. The antibiotic prescribing rate improved to 46.3% during the six-week period following the educational intervention, a reduction of 10.6%.

Conclusion: While this quality improvement project did not achieve the desired antibiotic prescribing rate of 12%, the educational intervention was effective at lowering the overall rate of antibiotics prescribed for sinusitis. Limitations include a short follow-up period and the voluntary nature of participation in the educational intervention.

Keywords: sinusitis, antibiotics, urgent care, antibiotic stewardship, quality improvement

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An Antibiotic Stewardship Program for Sinusitis in an Urgent Care Setting: A Quality Improvement Project for Advanced Practice Providers

Introduction

Sinusitis is a common complaint in the urgent care setting. According to the American College of Allergy, Asthma, & Immunology (2023), sinusitis affects 31 million people in the United States annually and results in approximately \$150 million spent on prescription drugs. The Centers for Disease Control and Prevention (2017) estimates that up to 98% of upper respiratory illnesses are of viral etiology and not likely to improve with antibiotics. However, antibiotics continue to be inappropriately prescribed in the urgent care setting. Overuse of antibiotics is associated with unnecessary side effects, drug interactions, antibiotic resistance, and increased costs (Seybold & Faber, 2023). This quality improvement project sought to determine if implementation of an antibiotic stewardship program in an urgent care setting would decrease the number of antibiotics prescribed for upper respiratory conditions.

Background

Antibiotics are unnecessary for most sinus infections. When antibiotics are inappropriately prescribed for sinus infections, undesired consequences can occur. These range from mild rashes to more serious conditions, such as antibiotic resistant infections like *Clostridium difficile* (*C. diff*) (Centers for Disease Control and Prevention, 2019). *C. diff* is a diarrhea illness that can cause grave consequences, including colon damage and death. Bacterial sinus infections account for only 0.5 to 2% of acute rhinosinusitis and usually occur secondary to a viral upper respiratory infection (Patel & Hwang, 2021). Acute bacterial rhinosinusitis (ABRS) should only be suspected if upper respiratory symptoms are present for greater than 10 days or if symptoms initially improve and then suddenly worsen over a 10-day period (“double

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worsening”) (Patel & Hwang, 2021). With evidence-based data supporting these recommendations, clinicians must discontinue the inappropriate use of antibiotics for simple sinusitis.

Truitt et al. (2021) suggest that inappropriate prescribing of antibiotics for sinusitis occurs due to a provider’s desire to satisfy clients. In a chart review of 425 sinusitis visits, only 50% of patients met criteria for antibiotic treatment. However, of the 211 patients that did not meet criteria, 193 (96%) were prescribed antibiotics just the same. The authors note that providers often prescribe unnecessary antibiotics to avoid negative patient interactions that result when no antibiotics are prescribed in “inconvincible patients.”

Stenehjem et al. (2023) implemented a 12-month antibiotic stewardship initiative in a large urgent care network. The initiative included education provided to both clinicians and patients, electronic health record tools, a clinician benchmarking dashboard, media support, and financial incentives for clinicians. They reviewed 493,724 patient encounters collected from 38 urgent care clinics and one telemedicine clinic. All encounters took place in urgent care settings and involved upper respiratory illnesses. The intervention resulted in fewer antibiotics being prescribed. The rate decreased from 47.8% to 33.3% initially and continued to decrease by 5% monthly throughout the intervention.

Problem Statement

The Centers for Disease Control and Prevention (2016) estimates that 47 million prescriptions for antibiotics are provided every year for respiratory conditions that are likely viral in nature and, thus, do not warrant antibiotic treatment. Antibiotic resistance and complications can be avoided. Therefore, efforts to reduce unnecessary prescribing of antibiotics for uncomplicated sinusitis should be employed.

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Organizational “Gap” Analysis of Project Site

This project site included a network of urgent care centers affiliated with a national hospital system in upstate South Carolina. During a 6-month period between April 1, 2023, and September 1, 2023, the site encountered 8,394 patients who were diagnosed with sinusitis by an advanced practice provider (APP). 61.6% received a medication prescription, and 56.9% were prescribed an antibiotic (Appendix A). Current practice guidelines based on internal company benchmarking metrics within this network support a target antibiotic prescription rate of less than 12% for uncomplicated upper respiratory infections, including sinusitis. This benchmark is based on Merit Based Incentive Payment Systems (MIPS) Clinical Quality Measures (CQMS)-Quality ID #65 (NQF): Appropriate Treatment for Upper Respiratory Infection (URI) (eQCI Resource Center, 2023). Therefore, current data indicates the need for a 45% reduction in the number of antibiotics prescribed for sinusitis within this healthcare system.

Review of Literature

Using the PubMed database, a search was conducted using the keywords “upper respiratory infection” AND “antibiotics” AND “urgent care” AND “antibiotic stewardship.” This search produced 117 articles. Limits were applied and included the following criteria: full text articles, English language, date range of 2018-2023, and human subjects. This query resulted in 83 articles. Articles were included only if they mentioned urgent care or ambulatory care settings in the title or abstract. Titles that included pneumonia, cancer, and COVID-19 were excluded. Nine articles were selected for review. The articles were then categorized by primary focus.

An overarching theme was evident in this review of literature: the need for antibiotic stewardship in the outpatient setting. For example, results from data including chart reviews, surveys, and collaborative learning conducted by Guzik et al. (2018) revealed that few outpatient

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entities have antibiotic stewardship programs in place, and up to 37.3% of patients diagnosed with acute respiratory infections have received antibiotics. Though the setting was made clear in each study reviewed, seldom was the focus on the specific characteristics of prescribers. Only one study referenced mid-level providers. Schmidt et al. (2018) found that patients seen by a non-physician APP are 15% more likely to be prescribed an antibiotic versus those seen by a physician. While this literature review focused on the importance of antibiotic stewardship in clinical practice, there is minimal available data to explain why overuse occurs at various provider levels.

Several studies focused on various approaches to antibiotic stewardship. In a retrospective, quasi-experimental study, Westerhof et al. (2021) revealed the benefits of a pharmacy-led intervention in an antibiotic stewardship program. For this study, a physician and a pharmacist provided live and written education regarding local antimicrobial guidelines to clinicians. Weekly feedback and monitoring were provided. This resulted in a significant reduction in inappropriate antibiotics prescribed for all monitored illnesses, including upper respiratory infections, urinary tract infections, and soft tissue skin infections. Tonazzi et al. (2022) outlined a delayed antibiotic approach in their quality improvement project. They implemented national guidelines for delayed antimicrobial therapy in patients with upper respiratory infections followed by a 10-day post discharge follow up call to evaluate patient status. This resulted in a 12% decrease in antibiotic use over a 30-day period. Stenehjem et al. (2023) established that an urgent care stewardship initiative is most successful when it is multimodal and includes interventions such as education for clinicians and patients, electronic health record tools, and benchmarking dashboards for providers.

Another successful approach to antibiotic stewardship was introduced by Wasylyshyn et

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al. (2022), focusing on virtual “e-visits”. This study included an intervention bundle specific to telemedicine visits for upper respiratory infections. The bundle provided guidance for instances of upper respiratory infections when antibiotics are not warranted and for bacterial sinusitis with appropriate antibiotic selection. The intervention decreased the number of antibiotics prescribed for acute sinusitis from 43.2% to 28.9%, improved compliance with prescribing of first line interventions such as treatment with amoxicillin-clavulanic acid or doxycycline when indicated and decreased the average duration of pharmacologic treatment from 10 to 5 days.

An intervention not associated with reduced prescribing rates was a best practice alert (BPA) instituted by Hansen et al. (2018). A BPA is an automated alert that increases communication to providers regarding antibiotic stewardship. The BPA prompted a “choose wisely” recommendation and advocacy aimed at eliminating antibiotic prescribing when sinusitis is diagnosed. The study monitored the percentage of oral antibiotics prescribed pre- and post-intervention. The intervention yielded near identical data for both groups (94.8% and 94.3%, respectively). Although an attractive electronic tool, it was not effective in promoting antibiotic stewardship.

Another important theme discussed in the literature involves the consequences of inappropriate antibiotic prescribing, including episodes in which antibiotics are not warranted and those in which an inappropriate drug is prescribed. Pulia et al. (2020) described concerns related to unwarranted antibiotic prescribing, particularly for the elderly population who are at increased risk of antibiotic-associated adverse effects, including cardiac arrhythmias, delirium, aortic dissection, drug-drug interactions, and *C. diff* infection. Misprescribing is also a significant concern. For example, macrolides and fluoroquinolones are often used for a diagnosis of sinusitis. Neither medication is indicated or preferred, and both pose significant, unwarranted

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risks (Wasylyshyn et al., 2022).

Antibiotic stewardship is imperative in the urgent care setting. Antibiotic resistance is a major concern in today's healthcare market and constitutes a growing concern in urgent care settings. Considering the appropriate diagnostic criteria for bacterial sinusitis and the potential grave consequence of inappropriate antibiotic use, an evidence-based antibiotic stewardship program is a reasonable place to begin.

Evidence-Based Practice: Verification of Chosen Option

Through a systematic approach, a clinical PICOT question was developed. A PICOT question is an evidence-based approach to writing that identifies a population, intervention, comparison, and time to be studied (Moran et al., 2020). Among (P) urgent care non-physician APPs, does an educational intervention (I) aimed at increasing provider knowledge and improving antibiotic stewardship for patients diagnosed with uncomplicated sinusitis impact the rate of antibiotics prescribed (O) over a six-week period (T) as compared to the rate of antibiotics prescribed prior to the intervention?

Evidence Based Practice Model

This evidence-based quality improvement project was guided by the John Hopkins Evidence-Based Practice (JHEBP) model. According to Johns Hopkins Medicine (2023), the JHEBP model consists of a three step "PET" process (Appendix B). This process identifies a practice question, investigates evidence through a thorough literature review, and translates findings into evidence-based practice recommendations (Johns Hopkins Medicine). This model encourages providers to make informed patient care decisions through evidence-based practice. The model is a linear flow model; each step is dependent on the previous step. The organization where this project was conducted fosters a culture of continuous quality improvement. Quality

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improvement standardizes processes, allows predictable results, and improves overall outcomes for patients, providers, and healthcare systems (Centers for Medicare & Medicaid Services, 2023). Therefore, this model mirrors the goals of the organization to promote improved practice changes.

Goals, Objectives, and Expected Outcomes

The goals of this quality improvement project included successful implementation of an educational intervention, APP engagement with the intervention, and an overall reduction in antibiotics prescribed for uncomplicated sinusitis. The objective of this project was to increase provider knowledge regarding current standards of care for sinusitis as outlined by the MIPS Clinical Quality Measures (CQMS)- Quality ID #65 (NQF): Appropriate Treatment for Upper Respiratory Infection (URI). The expected outcome was a 45% reduction in antibiotics prescribed by APPs for this diagnosis following the educational intervention.

Setting Facilitators and Barriers

Before the project's implementation, facilitators and barriers were identified. The project's clinical advisor was readily available to meet with the principal investigator (PI) as needed for guidance throughout the project. The Regional Medical Director was also readily available as a resource. Furthermore, there were several online tools provided by the network allowing access to current evidence-based practice guidelines via a network-based intranet.

Two potential barriers to success were identified. The first was related to the voluntary nature of this project. APPs were encouraged but not required to view the educational materials outlining the clinical practice recommendation. Furthermore, APPs were empowered to decide if they would adopt the clinical practice change. Strategies aimed at overcoming these barriers included emails to promote the project, a readily available asynchronous online educational

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presentation, and the availability of evidence-based resources for clinicians in the workplace.

Methods

Project Design

This quality improvement project utilized a quantitative study design, examining the pre- and post-educational prescribing activities of non-physician APPs for patients diagnosed with sinusitis in the urgent care setting. Antibiotic prescribing rates were observed for five months prior to the distribution of educational materials and for six weeks after.

All non-physician APPs employed by the clinical site were sent an email inviting them to view educational materials (Appendix C). The providers were informed that participation in the project was voluntary and anonymous. A reminder message was sent to providers through Microsoft Teams at 2 weeks and 4 weeks post-deployment of the educational presentation, encouraging them to review the materials (Appendix D). These materials included a link to a PowerPoint presentation entitled “Acute Sinusitis - Is Your Patient the 2%?”, covering the following topics: an introduction to sinusitis, current clinical practice guidelines, network goals, and suggested strategies moving forward. Providers were encouraged to view the educational material during non-busy times during their scheduled work shifts. APPs were not compensated for time spent viewing the materials. Communication between the PI and providers occurred through email and Microsoft Teams.

Project Site and Population

The setting for this project was a network of 17 urgent care clinics affiliated with a national healthcare system in upstate South Carolina. There are currently 47 providers in this network, including 5 physicians and 40 APPs, consisting of nurse practitioners and physician associates (physician’s assistants). Non-physician APPs were the focus of this project. Most

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providers in the network are assigned to a home clinic but may move between sites as needed. APPs hold various levels of employment in the network, including full-time, part-time, and as needed. APPs work autonomously. All non-physician APPs were eligible for inclusion in this project. This project was supported by the organization (Appendix E).

In terms of patient demographics, the total current population of upstate South Carolina is 1,561,465 and encompasses 11 counties (Upstate SC Alliance, 2022). The population is 74.4% white, 17.6% black, and 6.9% Hispanic, and 87.14 % of South Carolinians possess a high school education or higher (Upstate SC Alliance). 12.7% of non-elderly South Carolinians are uninsured, which is higher than the United States uninsured rate of 10.4% (KFF, 2023).

The network services patients with private insurance, in-state Medicaid, Medicare, Tricare, and those who are uninsured (cash-paying). Clinics do not accept Bright Health, out of state Medicaid, BlueChoice Medicaid, or Prisma Health Aetna. Services are provided on a walk-in or appointment basis for non-emergent complaints to patients of all ages, including children and seniors. Sprains, minor broken bones, cuts and burns, bites and stings, sexually transmitted infections, ear and throat infections, eye issues, cough and colds, vomiting, and diarrhea are among the most encountered complaints. Clinics also offer point of care testing for COVID-19, strep throat, flu, and urinary tract infections.

Each clinic is typically staffed with one provider, 2-3 medical assistants, and 1-2 front office associates daily. Individual clinics are led by a clinical supervisor present in the clinic on weekdays.

Measurement Instruments

To measure the outcomes of this project, antibiotic prescribing activities were searched and collected from the electronic medical records in Experity per query reports using Experity

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Business Insiders Prescription Database.

Data Collection Procedure

A query report was generated in Experity Business Insiders Prescription Dashboard both pre- and post-intervention to determine the rate of antibiotic prescribing practices for the diagnosis of sinusitis. A retrospective chart review was performed. Pre-intervention data was collected from the 5-month period prior to the educational intervention. Post-intervention data collection began on the day that the email invitation was sent to participants and commenced exactly six weeks after deployment of the educational materials. Data from all 17 clinics was included in the query report. The following filters were included in the data query: designation of nurse practitioner or physician associate; diagnoses involving diseases of the respiratory system; and at least one of the following International Classification of Diseases, Tenth Revision (ICD-10) diagnosis codes: J01.00, J01.10, J01.40, or J01.90 (Appendix F). Furthermore, the collected data was filtered to include the choice of antibiotic prescribed for an encounter in which sinusitis was diagnosed. The query included a search for the following antibiotics prescribed for previously mentioned diagnoses: amoxicillin, amoxicillin-potassium clavulanate, cefdinir, doxycycline hyclate, doxycycline monohydrate, clindamycin HCL, cefpodoxime, ciprofloxacin, moxifloxacin, and levofloxacin (Appendix G).

Data extracted from medical records was saved in a password protected, encrypted file, and housed in a University of Alabama Box drive. No personal identifiers of patients or providers were collected. Access to this data was available to the PI and the clinical advisor exclusively.

Data Analysis

Cost-Benefit Analysis/Budget

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There was no cost incurred for this project. Time spent by the PI on this project was uncompensated. Data was available via electronic medical records, and there was no cost to access records. Additionally, APPs were not compensated for their participation in this project. Participation was voluntary and educational material was viewed at the provider's convenience.

Timeline

This project occurred over a 12-month period. Three months were designated to the project proposal development. The project was approved by the University of Alabama Institutional Review Board (IRB) on September 25, 2023. Following IRB approval, 7 months were allotted for pre- and post-intervention data collection. The remaining 2 months were designated for data analysis, manuscript completion, and journal submission.

Ethical Considerations/Protection of Human Subjects

This project was approved by Bon Secours Mercy Health and the medical director of the 17 urgent cares included in this study. The network where this project was instituted currently has an IRB for graduate medical, nursing, and other investigator-initiated research projects. The waiver of institutional IRB approval was determined by following the facility provided algorithm “Does My Project Need IRB Review?” (Appendix I). The regional administrator waived IRB approval due to the quality improvement nature of this project involving only a retrospective chart review (Appendices H & J).

Provider involvement was voluntary, providing no compensation for participating and no penalty for not participating in the project. The investigator encouraged questions about the project. Providers were informed that their personal identities were not observed or collected, and only aggregate data of the network was evaluated. No individual prescribing activities were monitored or tracked, and collected data was not linked to individuals. To ensure provider

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anonymity and confidentiality, the PI was blinded to a provider's status of having viewed or not viewed the educational materials.

Results

Query reports were generated to evaluate the efficacy of an educational intervention for APPs and the impact on antibiotic prescribing rates for patients diagnosed with sinusitis. 12,814 patient encounters were included in this retrospective chart review (Table 1). Of these encounters, 4780 (56.9%) from the pre-intervention period were associated with an antibiotic prescription, as were 2048 (46.3%) in the post-intervention period. A McNemar chi-square analysis was conducted to examine the relationship between an educational intervention and antibiotic prescribing practices of APPs in network. As illustrated in Table 1, the data demonstrated a clinically significant decline in antibiotic prescribing rates for sinusitis associated with the educational intervention, ($X^2 (1) = 433.13, p = .001$). Prescribers were less likely to prescribe antibiotics after receiving education (56.9% pre, 46.3% post).

Discussion

The educational intervention was associated with a significant decrease in inappropriate antibiotics prescribed by APPs for sinusitis in the given network. Several factors may have contributed to this quality improvement project's success, including the easily accessible nature and convenience of the educational materials. A concise PowerPoint presentation included visual aids, meeting the needs of different learning styles. APPs received numerous prompts and reminders to view the information, which arrived via emailed link. Providers were free to view the presentation at a self-guided pace and had unlimited access to the materials. Finally, the link could be accessed and viewed at the provider's convenience, whether at work or elsewhere.

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Another factor contributing to the project's success was avoidance of a Rosenthal type effect. According to the American Psychological Association (2024), the Rosenthal effect occurs when an investigator's expectation about a project affects the study outcome. Oftentimes, researchers use blinding to prevent this type of effect from occurring. In this study, the investigator set the SharePoint "viewers" feature on Microsoft PowerPoint as inactive. This maintained strict anonymity as to whether providers viewed the materials or not.

The project also experienced several limitations. First, there was a short follow up period. This was limited by the length of the doctoral program of study for which this project was completed. Application of the Johns Hopkins Evidence Based Practice Model (2023) for a period longer than six weeks could have led to an outcome closer to the desired antibiotic prescribing rate of 12%. Because the model is designed to encourage providers to make informed patient care decisions through evidence-based practice, a longer follow up period of six months to one year could have yielded results closer to the original goal. It is reasonable to infer that implementation of this model for a longer period could lead to lasting change in how sinusitis is treated in the urgent care setting.

Further, the project may have been limited by the voluntary nature of provider participation. Adoption and adherence to clinical practice guidelines is strongly suggested but not mandatory. Providers maintain the authority to make treatment decisions for their patients. Because the PI was blinded to provider participation, knowledge of which APPs viewed the educational materials was not available. Data related to how many APPs viewed the educational materials could have provided meaningful insight into the results of the project.

Given the results of this study, it can be hypothesized that further studies involving other diagnoses of interest could experience comparable results by applying the Johns Hopkins

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Evidence Based Practice Model (2023). Further studies could be expanded to include other prescribers, such as physicians, while maintaining a focus on sinusitis and antibiotic stewardship.

Conclusion

It is evident that antibiotics are not needed for most sinus infections. This project sought to reiterate evidence-based practice guidelines for advanced practice providers treating patients for sinusitis in the urgent care setting with a goal of decreasing antibiotic prescriptions.

Unnecessary antibiotics incur significant costs for patients, lead to antibiotic resistance, and are associated with harmful drug interactions.

The results of this project demonstrated the effectiveness of an educational intervention aimed at reducing the number of antibiotics improperly prescribed for acute sinusitis among urgent care patients. This type of educational intervention is useful in educating providers about evidence-based practice guidelines across all healthcare settings. Ideally, this information would be provided to all APPs through regularly occurring educational activities. Intentionality in antibiotic stewardship, especially for upper respiratory infections like sinusitis, improves not only the health and safety of patients in local networks but also those across the globe.

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Table 1*Antibiotic Prescribing Rates Among Urgent Care Patients with Sinusitis*

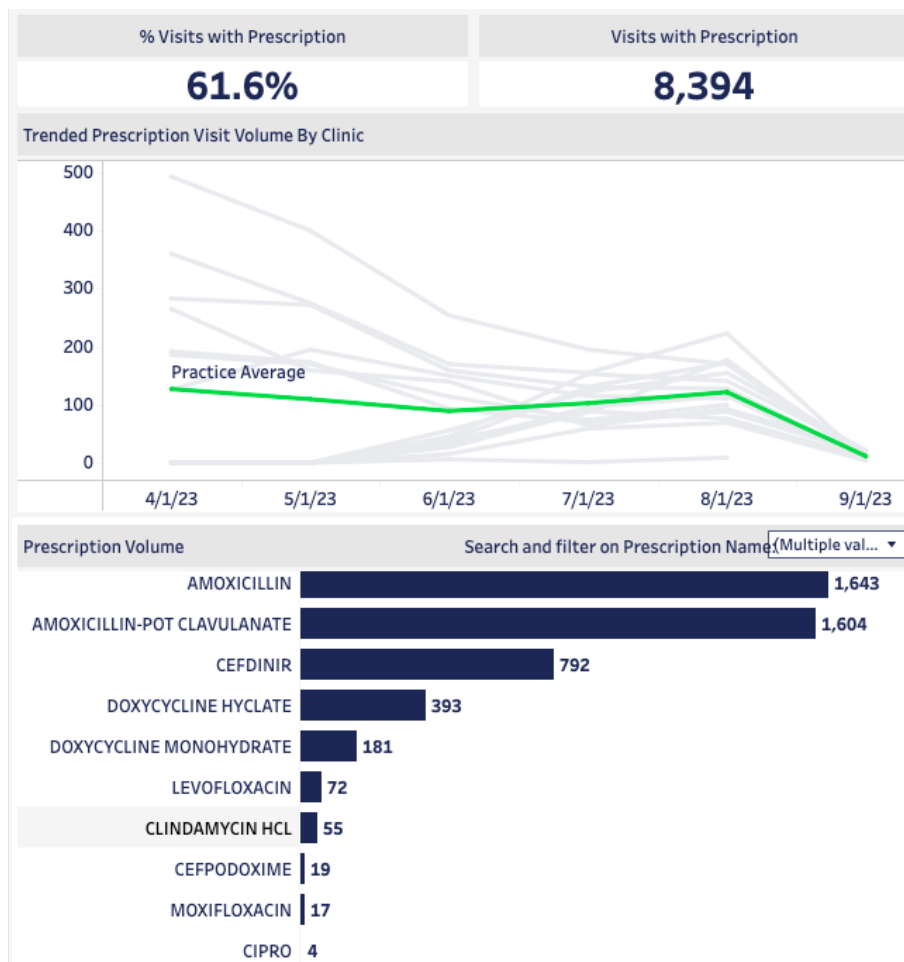
		Educational Intervention		
	Total (n=12, 814)	Pre (n=8394)	Post (n=4420)	p-value
Antibiotic Prescription, n (%)				<.001
Yes	6828 (53.2)	4780 (56.9)	2048 (46.3)	
No	5986(46.7)	3614 (43.1)	2372 (53.7)	

McNemar Chi-Square test; Chi-square statistic is 433.13; Significant at $p < .05$.

REDUCTION OF ANTIBIOTICS BY APPS FOR SINUSITIS

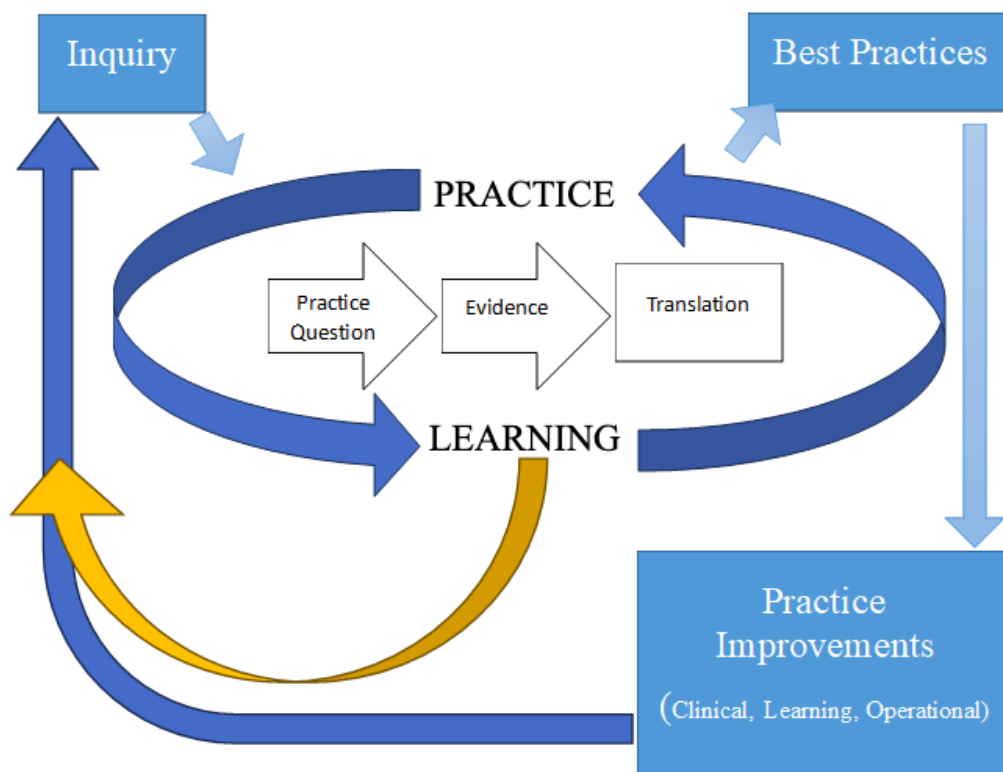
Appendix A

Antibiotics Prescribed for Sinusitis Between April 1, 2023, and September 1, 2023



Note: % Visits with Prescription includes all medications prescribed

(Experity Business Intelligence, 2023)

Appendix B*Evidence Based Practice Model***The Johns Hopkins Nursing Evidence-Based Practice Model**

(Johns Hopkins Medicine, 2023)

Appendix C*Email Script Sent to Providers*

Fellow advanced practice providers,

As some of you may know, I am pursuing my doctoral degree from the University of Alabama. As part of the requirements of the program, I must complete a scholarly project. The focus of my project is to reduce the amount of antibiotics prescribed by advanced practice providers for acute sinusitis in urgent care.

I invite you to view the linked PowerPoint (Acute Sinusitis: Is Your Patient the 2%?). Participation is not mandatory, but it is encouraged. Of note, your personal prescribing activities will not be reviewed or collected. I am simply collecting aggregate data for our network.

Finally, I would ask you to consider NOT prescribing antibiotics for acute sinusitis UNLESS your patient meets the guidance set for by evidence-based practice. As we know, “sinus infection” is an abundantly common complaint in the urgent care setting. It is imperative that we are confident in bacterial etiology and avoid inappropriate antibiotic use at all costs. If you have any questions, please feel free to reach out.

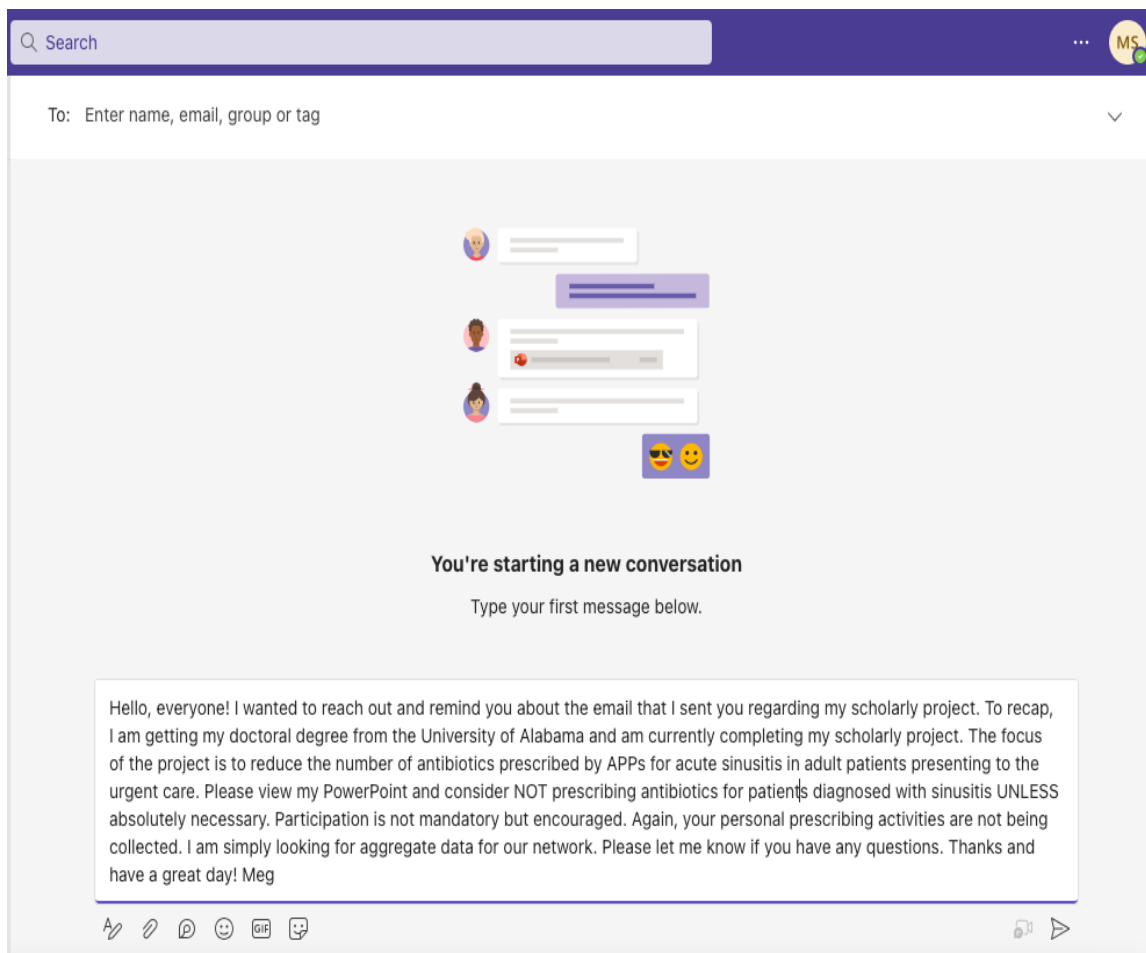
Meg Slattery, CRNP

DNP Student

The University of Alabama

Appendix D

Microsoft Teams Follow Up Message



REDUCTION OF ANTIBIOTICS BY APPS FOR SINUSITIS

Appendix E*Facility Letter of Support*

July 5, 2023

To Whom it May Concern:

Please accept this letter to acknowledge my support of the DNP project being conducted by Meagan Slattery to investigate the antibiotic stewardship practices of advanced practice providers who diagnose patients with acute sinusitis. Meagan has permission and support to use the data collection tools available within Bon Secours Mercy Health Urgent Care to measure the effectiveness of her proposed intervention.

Sincerely,

A handwritten signature in blue ink, appearing to read 'MD'.

Matt Delfino, MD, MBA
Regional Medical Director- South Carolina
Bon Secours Mercy Health Urgent Care

REDUCTION OF ANTIBIOTICS BY APPS FOR SINUSITIS

Appendix F*ICD-10 Codes for Acute Sinusitis*

Diagnosis for acute sinusitis (ICD-10-CM):

J01.00 Acute maxillary sinusitis, unspecified

J01.10 Acute frontal sinusitis, unspecified

J01.40 Acute pansinusitis, unspecified

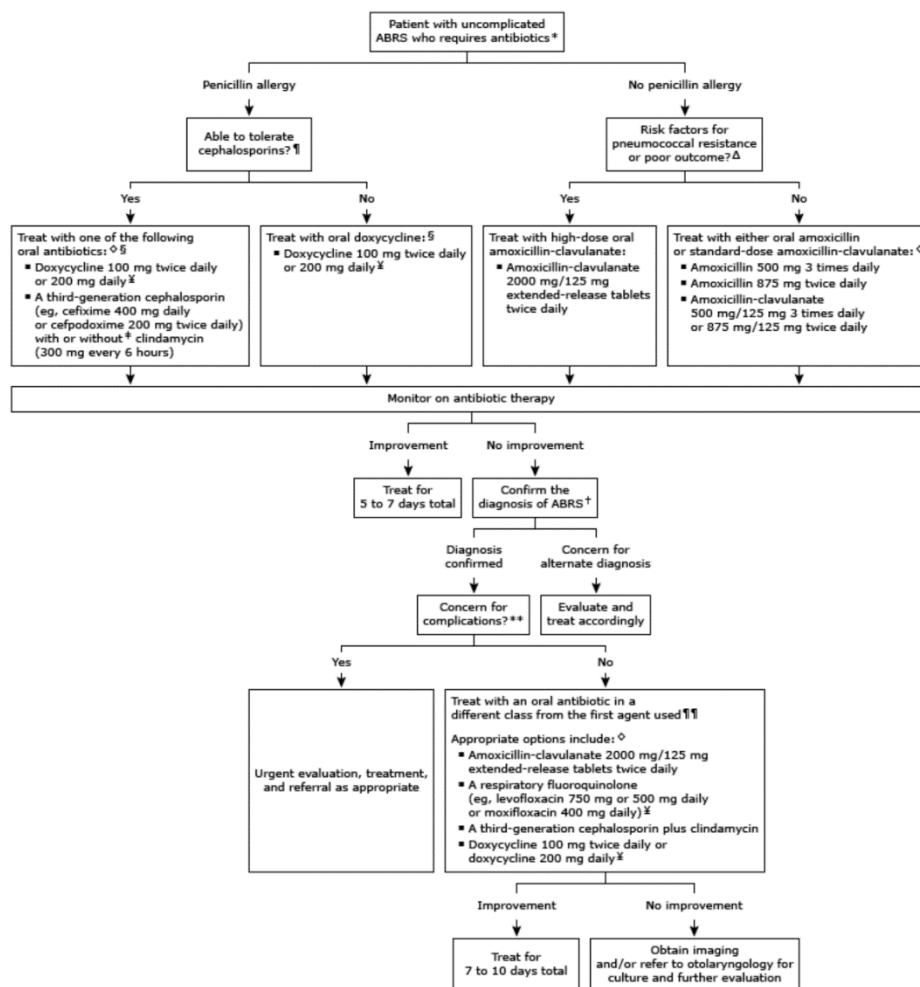
J01.90 Acute sinusitis, unspecified

(American Medical Association, 2022)

Appendix G

Outpatient Treatment Guidelines of Uncomplicated Bacterial Rhinosinusitis

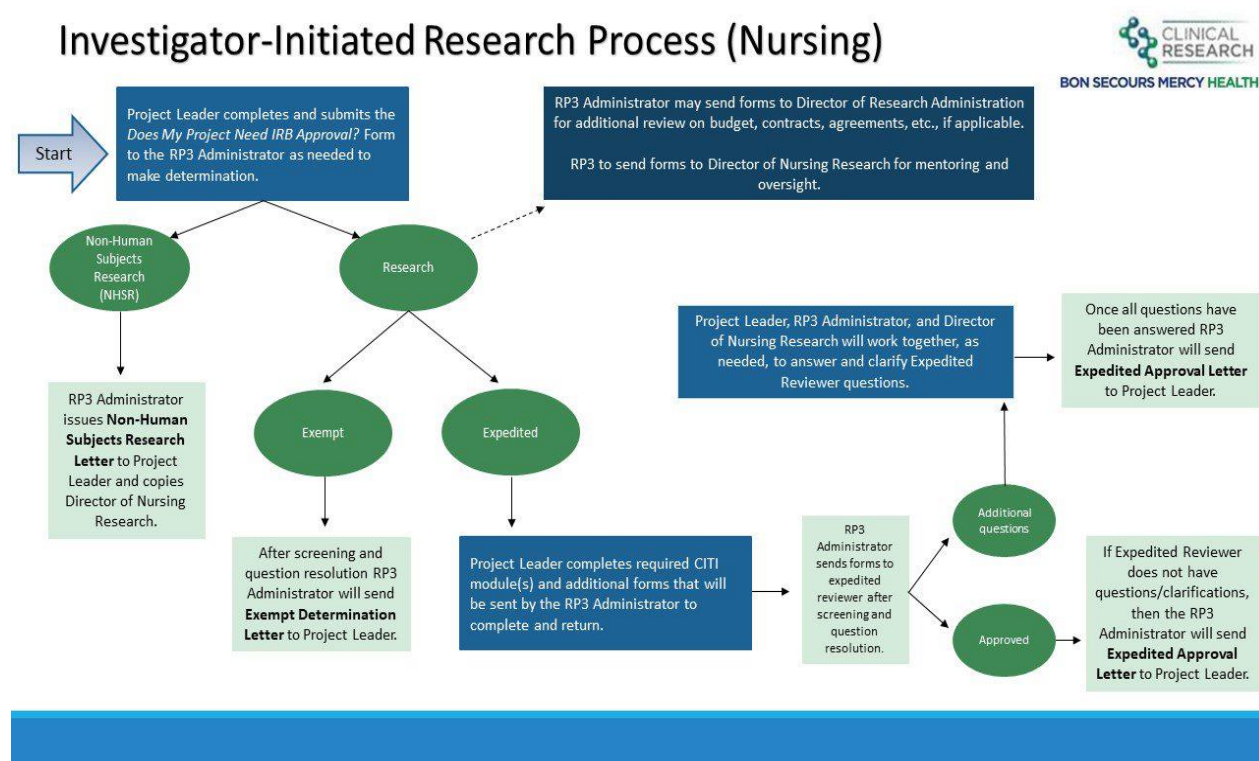
Empiric antimicrobial therapy for outpatient treatment of uncomplicated acute bacterial rhinosinusitis (ABRS) in immunocompetent adults



(UpToDate, 2023)

Appendix H

Facility Based Research Process



(Bon Secours Mercy Health, 2023)

REDUCTION OF ANTIBIOTICS BY APPS FOR SINUSITIS

Appendix I

Does my Project Need IRB Review & Approval?

Bon Secours Mercy Health (BSMH)
Research Participant Protection Program (RP³)

Version June 2023

DOES MY PROJECT NEED IRB REVIEW & APPROVAL?

This form is designed to help project leaders, Academic Coordinators, appropriate Nursing leaders, and the Research Participant Protection Program (RP³) determine if a project requires IRB review and approval.

Please fill out this form and submit it to the RP³ Administrator responsible for your market for administrative review. Feel free to attach any project documents you may have already developed, if you believe it will be helpful in making the determination. The RP³ Administrator will contact you with the review results and may request additional information from you to assist with the determination.

Project Title: Click or tap here to enter text.

Project Leader Name & Degree(s): Click or tap here to enter text.

E-mail: Click or tap here to enter text.

Are you a BSMH employee? Yes No

Is this project part of an academic curriculum requirement? Yes No

If yes, please check all that apply in consideration to your role(s):

- Nursing
- Faculty
- Fellow
- Resident
- Other: Click or tap here to enter text.

Project Site(s): Click or tap here to enter text.

PROVIDE A SUMMARY OF THE PURPOSE OF THE PROPOSED ACTIVITY
Click or tap here to enter text.

DESCRIBE THE PROPOSED PROCEDURES AND METHODS
Click or tap here to enter text.

DETERMINATION: QI/PI/EBP OR HUMAN SUBJECTS RESEARCH
PLEASE SELECT ONLY THE RESPONSE WHICH BEST DESCRIBES YOUR PROJECT.

- Quality/Program Improvement or Evidence-Based Practice project where the results are targeted to the institution(s) in which the project is to be conducted.
- A systematic investigation, including development of a research question, testing, and evaluation that is designed to develop or contribute to generalizable knowledge.

(Bon Secours Mercy Health, 2023)

REDUCTION OF ANTIBIOTICS BY APPS FOR SINUSITIS

Appendix J*Letter of IRB Approval Not Needed*

BON SECOURS MERCY HEALTH

BSMH Institutional Review Board (IRB)
Research Participant Protection Program (RP³)

DATE: July 28, 2023

TO: Meagan Slattery, MSN, BSN, FNP-C
Upstate SC AFC Bon Secours Urgent Cares
Greenville, SC

FROM: Sue Henderson, CCRC
RP³ Administrator
BSMH RP³

RE: Reduction of Antibiotics Prescribed by Advanced Practice Providers for Sinusitis
in the Urgent Care Setting

Thank you for providing the documents and background regarding your project: "Reduction of Antibiotics Prescribed by Advanced Practice Providers for Sinusitis in the Urgent Care Setting."

Based on your project's details and overall objectives, the Bon Secours Mercy Health (BSMH) RP³ has determined that it does not meet the criteria for human subjects research as currently defined by federal regulations. Therefore, it does not fall within the purview of the BSMH IRB review, approval, and oversight responsibilities.

Since this project is not human subjects research, you do not need IRB approval, but will need to obtain approval from your department's leadership, administration, or program advisor. Please verify if any further departmental approvals are required. Our office just makes the determination of human subjects research vs. not human subjects research (NHSR) and facilitates IRB review for the former.

Congratulations on your project and best wishes for its successful implementation!

Sincerely,

Sue Henderson

Sue Henderson, CCRC
RP³ Administrator
Research Participant Protection Program (RP³)
Bon Secours Mercy Health IRB
Sue_Henderson@bshsi.org



BON SECOURS MERCY HEALTH

