Improving Antibiotic Use in Urgent Care Facilities

CLINICALTRIALS.GOV IDENTIFIER	RECRUITMENT STATUS	FIRST POSTED	LAST UPDATE POSTED
NCT03932708	ACTIVE, NOT RECRUITING	MAY 1, 2019	FEBRUARY 10, 2021

STUDY DESCRIPTION

Brief Summary

This study will implement a comprehensive outpatient stewardship program targeting a large network of Urgent Care (UC) clinics within Intermountain Helathcare.

Condition or Disease: Antibiotic Side Effect
Behavioral Changes

Intervention/treatment: Behavioral: CDC Core Elements of Outpatient Stewardship

Phase: N/A

DETAILED DESCRIPTION

This study will characterize baseline antibiotic prescribing practices throughout the Intermountain Healthcare Urgent Care (IH UC) system and implement a bundle of stewardship interventions throughout the IH UC system with the intention of both scalability across a large number of sites and sustainability. The urgent care (UC) antibiotic stewardship intervention was designed to meet the unique challenges of UC providers and patients and will directly incorporate all Core Elements of Outpatient Antibiotic Stewardship.

Leadership Commitment. Improving the use of antibiotics is a priority for IH leaders. IH leaders created two new system-wide leadership roles to direct antibiotic stewardship efforts across IH's continuum of care: Dr. Eddie Stenehjem is the system's Antimicrobial Stewardship Medical Director and Dr. Whitney Buckel is IH's Antimicrobial Stewardship Pharmacy Manager. Drs. Stenehjem and Buckel direct and lead all inpatient and outpatient stewardship efforts across the system. The creation of a system-wide antimicrobial stewardship leadership structure demonstrates the IH commitment to deploy best practices in antibiotic stewardship across the healthcare system. IH has designated a new system-wide outpatient stewardship leadership position that serves as a direct liaison between UC leadership (Medical Directors and Associate Medical Directors), participating UC facilities, and antibiotic stewardship leadership. The outpatient stewardship leader will participate in education efforts around appropriate antibiotic use and will work closely with prescribers that have been identified to have high rates of inappropriate antibiotic prescribing and/or high rates of sinusitis/AOM diagnoses. Additionally, the Medical Director for UC has designated antibiotic prescribing as one of only two quality metrics that will be assessed longitudinally for UC clinicians across the system.

Action for Policy and Practice. Our bundle of stewardship interventions is based on prior evidence of effectiveness and the unique features of UC sites. Additionally, our bundle allows for adaptability based on knowledge gained from the qualitative components of the proposal described previously and the experiences gained throughout implementation. An essential component to our bundle will be the implementation of tools that are designed to improve the quality and efficiency of care provided in UC settings. The action elements of our intervention will include the following components:

1. Commitment Posters: All UC clinics will display commitment posters demonstrating support from corporate, infectious diseases, and urgent care leaders and signed by providers. These posters will be in the clinic waiting room attesting to the providers' commitment to judicious antibiotic prescribing.

2. EHR Tools: With the input of our frontline clinicians and assistance of our internal EHR developers, the study team has created electronic clinical decision support tools within our EHR to improve antibiotic prescribing for acute bacterial sinusitis and acute otitis media (AOM). This tool will improve efficiency of clinical documentation, improve diagnostic accuracy by embedding the required diagnostic elements of upper respiratory infections, provide quick access to patient education material, and facilitate the ordering of a guideline concordant antibiotic prescription. This tool also incorporates delayed antibiotic prescriptions, which is our new default prescribing method for AOM and sinusitis. The delayed antibiotic prescription order was specifically developed for this intervention to assist in tracking delayed prescribing. These tools will be tailored with help from our frontline caregivers and piloted at a small sampling of UC clinics prior to widespread implementation. The tools are expected to be of special interest for UC clinicians because they target the most common diagnoses associated with antibiotic prescribing, have the potential to enhance efficiency with documentation, and facilitate appropriate antibiotic selection.

3. Prescription Justification: Azithromycin is 2nd most common antibiotic prescribed in the IH outpatient network. However, azithromycin prescriptions are rarely appropriate in UC. Besides a few relatively uncommon ID conditions (e.g., mycobacterial infections), azithromycin is only recommended for community acquired pneumonia, gonorrhea and chlamydia, and Streptococcal pharyngitis with a penicillin allergy. However, in the IH outpatient population, it is the most common antibiotic used for acute bronchitis and cough, 5th most common for sinusitis, and 2nd most common antibiotic given for unspecified acute pharyngitis. Given the very high rates of azithromycin misuse, providers will now be required to justify their ordering of azithromycin with documentation. When azithromycin is ordered, the provider will be required to fill out an "azithromycin justification form" prior to having the order signed. The justification form will populate the medical record and display the indication for the antibiotic that was selected by the provider. This method of "accountable justification" is an effective method to reduce antibiotic overuse.

Tracking and Reporting. Using IH data analysts to access the Enterprise Data Warehouse, system level, facility level, and provider level reports have been developed to detail antibiotic prescribing practices. During the first 4 months of the baseline period, feedback from urgent care clinicians and leaders was generated on the design of the reports. The individual provider reports will focus on the following elements:

- Rate of antibiotics prescribed for respiratory encounter visits
- Percent of sinusitis, pharyngitis, and AOM (respiratory, tier 2) encounters that received an order for appropriate first-line antibiotics
- Percent of sinusitis and AOM visits receiving a delayed antibiotic prescription
- Percent of Tier 3 respiratory encounters in which an antibiotic was prescribed
- Diagnosis rate of sinusitis (adults) and AOM (children)

Each of the above reported elements will include the providers' data along with comparison data for the individual facility and the UC type (i.e., InstaCare or KidsCare). These data will be available via an antibiotic stewardship dashboard that individual clinicians may access anytime. The dashboard will be fully transparent (all providers data will be displayed without blinding of names/locations) and include other antibiotic prescribing data (e.g. most common antibiotics used, duration of therapy, etc.) The study team and the outpatient stewardship lead will be available to review data with individual providers as needed. Throughout the study period the study team will receive feedback about the design and usability of the monthly reports and dashboard and modifications can occur accordingly.

Daily huddles are a method to help teams focus on quality and safety. Huddle boards are standardized visual tool a tool to help teams collaborate on and visualize the tasks and operations of a group or clinic. All IH UC facilities now have dynamic huddle boards. IH huddle boards highlight data and metrics surrounding our 5 Intermountain fundamentals of care - stewardship, safety, quality, patient experience, and access. Prior to the start of each clinic day, each clinic team reviews their huddle board and discusses any potential foreseeable challenges. With our antibiotic stewardship intervention, weekly antibiotic prescribing metrics will be posted to the quality section of each clinic's huddle board. Antibiotic prescribing metrics may be presented monthly if insufficient volume is identified. The clinical manager will be responsible for posting facility and provider metrics (obtained from the online dashboard). An antibiotic stewardship leader (study leader, UC leader, or the outpatient stewardship leader) will be present for the huddle board review intermittently to review antibiotic prescribing metrics, answer questions from providers, discuss improvement strategies, and promote judicious prescribing. The study team will develop a cadence in which a stewardship leader will be present for each clinic's huddle board review with more contact early in the intervention. Lastly, senior IH leaders will maintain oversight of this initiative and receive quarterly executive-level formative reporting on program results using the same structured data reports. Dr. Stenehjem and the UC leadership will be responsible for the quarterly updates.

Education and Expertise. Our UC focused stewardship intervention will incorporate several key educational components for both providers and patients. For our UC providers, the study team will conduct a presentation at each of the monthly regional meetings that outlines appropriate antibiotic use and provides an overview of the UC stewardship initiative, expectations, and interventions. Second, all UC providers will have their antibiotic stewardship metrics reviewed with them during their annual review by either the UC Medical Director or Associate Medical Director. This will allow for focused education by UC leaders directly to individual clinicians. Third, a quarterly newsletter and/or blog post will be written and disseminated to all UC clinicians on topics relevant to appropriate antibiotic prescribing. Fourth, clinic computer screen savers will be developed and implemented in all UC sites highlighting key stewardship interventions. Lastly, clinical managers will be provided with education to disseminate to their nursing staff and medical assistants to ensure antibiotic stewardship messages are consistent throughout the clinic visit. UC clinicians will continue to have the ongoing clinical support from the existing ID telehealth program. The ID telehealth program operates an ID hotline that is available 24 hours a day, 7 day a week, allowing outpatient clinicians the ability to discuss complex cases with physicians that have ID expertise.

Our patients will also be a target for an educational initiative. Currently, IH is involved in a large opioid reduction campaign that has already reduced over 1 million tablets for acute pain. This campaign consists of publicly facing messages raising awareness of opioid use and instructing patients to talk with their provider about alternative pain control options. The study team will initiate a similar antibiotic stewardship campaign running in parallel with, and at times, in conjunction with the opioid messaging. Antibiotic stewardship messaging will be posted at the entrance of and within Urgent Care sites. Similar messaging will be run in parallel on IH social media sites and patient facing webpages. The study team has also developed educational materials that can be given to patients during a provider visit explaining in clear language why an antibiotic was not given and how a delayed antibiotic prescription should be managed. The study team has also developed a checklist of common over-the-counter symptomatic therapies for congestion, fever, and pain that will assist the provider in instructing the patient on symptomatic therapies and assist the patient on finding the appropriate medications at retail stores.

STUDY DESIGN

Study Type:	Interventional
Estimated Enrollment :	700000 participants
Intervention Model :	Single Group Assignment
Masking:	None (Open Label) ()
Primary Purpose:	Health Services Research
Official Title:	Improving Antibiotic Use in Urgent Care Facilities Through Implementation and Evaluation of Core Elements of Outpatient Antibiotic Stewardship

Actual Study Start Date:	July 2019
Estimated Primary Completion Date:	April 2022
Estimated Study Completion Date:	April 2022

ARMS AND INTERVENTIONS

Arm	Intervention/treatment
Experimental: Urgent Care Antibiotic Stewardship Intervention All 38 urgent care clinics will implement CDC Core Elements of outpatient antibiotic stewardship as described above.	Behavioral: CDC Core Elements of Outpatient Stewardship The intervention is described above and includes components of leadership, action of policy and practice, tracking and reporting, and education and expertise.

OUTCOME MEASURES

Primary Outcome Measures: 1. Antibiotic prescribing for respiratory encounters measured at the encounter level [Time Frame: Intervention period is one year]
Respiratory encounters are defined as an urgent care encounter for any ICD10 defined respiratory condition, excluding encounters with concomitant other infectious diseases codes.

Secondary Outcome Measures: 1. Antibiotic prescribing appropriateness in respiratory encounters [Time Frame: Intervention period is one year]
The secondary outcome of antibiotic appropriateness will also be measured at the encounter level and will be estimated two ways: (i) in terms of rate of guideline-recommended antibiotics among selected respiratory diagnoses, and (ii) in terms of rate of antibiotic prescribing among respiratory diagnoses where no prescribing should occur (i.e., rate of "inappropriate" antibiotics).
2. Diagnostic shifting [Time Frame: Intervention period is one year]
The secondary outcome of diagnostic shifting will be measured at the provider level and characterize changes in the types of diagnoses used during respiratory encounters.
3. Patient satisfaction [Time Frame: Intervention period is one year]
As data availability allows, a secondary outcome of patient satisfaction will be measured at the patient encounter level in terms of a validated, patient satisfaction score. Patient satisfaction will be assessed using the "rate your provider" question. This question asks patients to rate their provider on a scale of 1 - 10 (1 being the worst, 10 being the best). Patient satisfaction scores will be explored in patients that receive antibiotics for tier 2 and 3 respiratory conditions and those that do not receive antibiotics for tier 2 and 3 respiratory conditions.

ELIGIBILITY CRITERIA

Ages Eligible for Study: (Child, Adult, Older Adult)

Sexes Eligible for Study: All

Accepts Healthy Volunteers: Yes

Criteria

Inclusion Criteria:
- Intermountain Healthcare "InstaCare" Clinics
- Intermountain Healthcare "KidsCare" Clinics
- Intermountain Healthcare "ConnectCare"

Exclusion Criteria:
- Intermountain Healthcare Hospitals and Medical Centers
- All non-Intermountain Healthcare urgent care clinics

CONTACTS AND LOCATIONS

Contacts

Locations

United States, Utah	Intermountain Medical Center	Murray

Sponsors and Collaborators

Intermountain Health Care, Inc.

Centers for Disease Control and Prevention

Investigator

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MORE INFORMATION

Responsible Party :	Intermountain Health Care, Inc.
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Studies a U.S. FDA-regulated Device Product:	No
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Additional relevant MeSH terms :	*Problem Behavior*