

Pediatric Challenges with ASP in the Urgent Care Setting

AMERICAN ACADEMY OF PEDIATRICS: SECTION ON URGENT CARE MEDICINE

JOHN J. SANTOS MD, MBA



School of Medicine
UNIVERSITY OF COLORADO
ANSCHUTZ MEDICAL CAMPUS



Provisional Section on Urgent Care Medicine

Who We Are

- Formed in 2016 as AAP Subcommittee under Section of Emergency Medicine
- Represent nearly 150 urgent care pediatricians encompassing all regions of the US
- July 1, 2019 recognized as a provisional Section on Urgent Care Medicine

What We Do

- Work with the AAP to advocate for pediatric urgent care and pediatric-readiness in general urgent care centers
- Expand opportunities for pediatric urgent care education
- Promote urgent care research and collaboration

Urgent Care Collaboration



AAP with over 67,000 members and UCA with 3,500 members. SPUC has about 350 members and PUC has had attendance of about 150 for its annual conference. Academic Pediatric Association partners to host the PAS conference each year with the 2019 conference having 10 abstracts and 3 platform presentations that incorporated Urgent Care into their scholarship.

Outpatient Antibiotic Use

- Antibiotic prescribing rates for patients less than 14 years old **decreased 24%** 1993 to 2007¹
- In 2014, **266.1 million** courses of antibiotics were dispensed from community pharmacies²
- At least **30%** of antibiotics prescribed in the outpatient setting are unnecessary³

1. Office-related antibiotic prescribing for persons aged ≤14 years — United States, 1993-1994 to 2007-2008. *MMWR Morb Mortal Wkly Rep.* 2011;60(34):1153-6

2. Centers for Disease Control and Prevention. *Outpatient antibiotic prescriptions — United States, 2014*

3. Fleming-Dutra et al. (2016). "Prevalence of Inappropriate Antibiotic Prescriptions Among US Ambulatory Care Visits, 2010-2011." *Journal of the American Medical Association* 315(17): 1864-1873

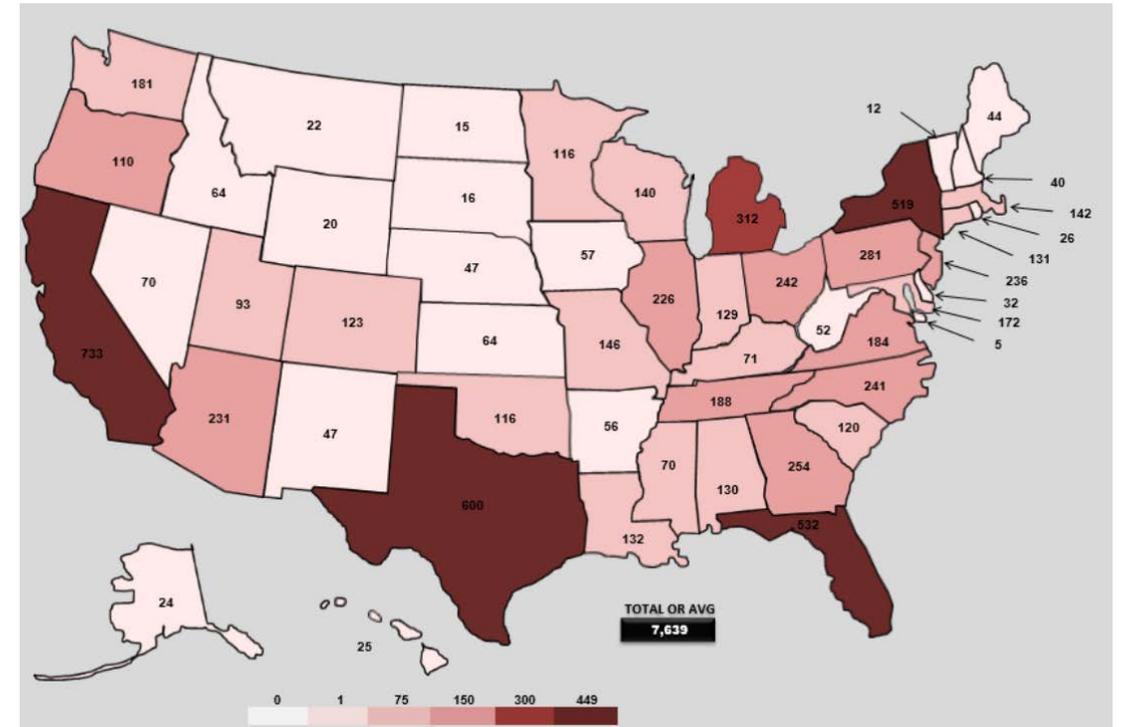
Antibiotic overuse is a serious concern in all areas of medicine and while outpatient antibiotic use has decreased in patients under 14 there were still over 250million courses of antibiotics dispensed in 2014 and at least 30% of these are for inappropriate indications.

Urgent Care in Health Delivery

- Urgent Care is growing at a nearly 5% annual rate with 400-500 new sites opening every year¹
- Between 8,000 to 10,000 locations across the country with over \$15 billion in charges in 2015²
- 90 million visits to urgent care centers representing nearly 10% of all outpatient visits in 2017¹

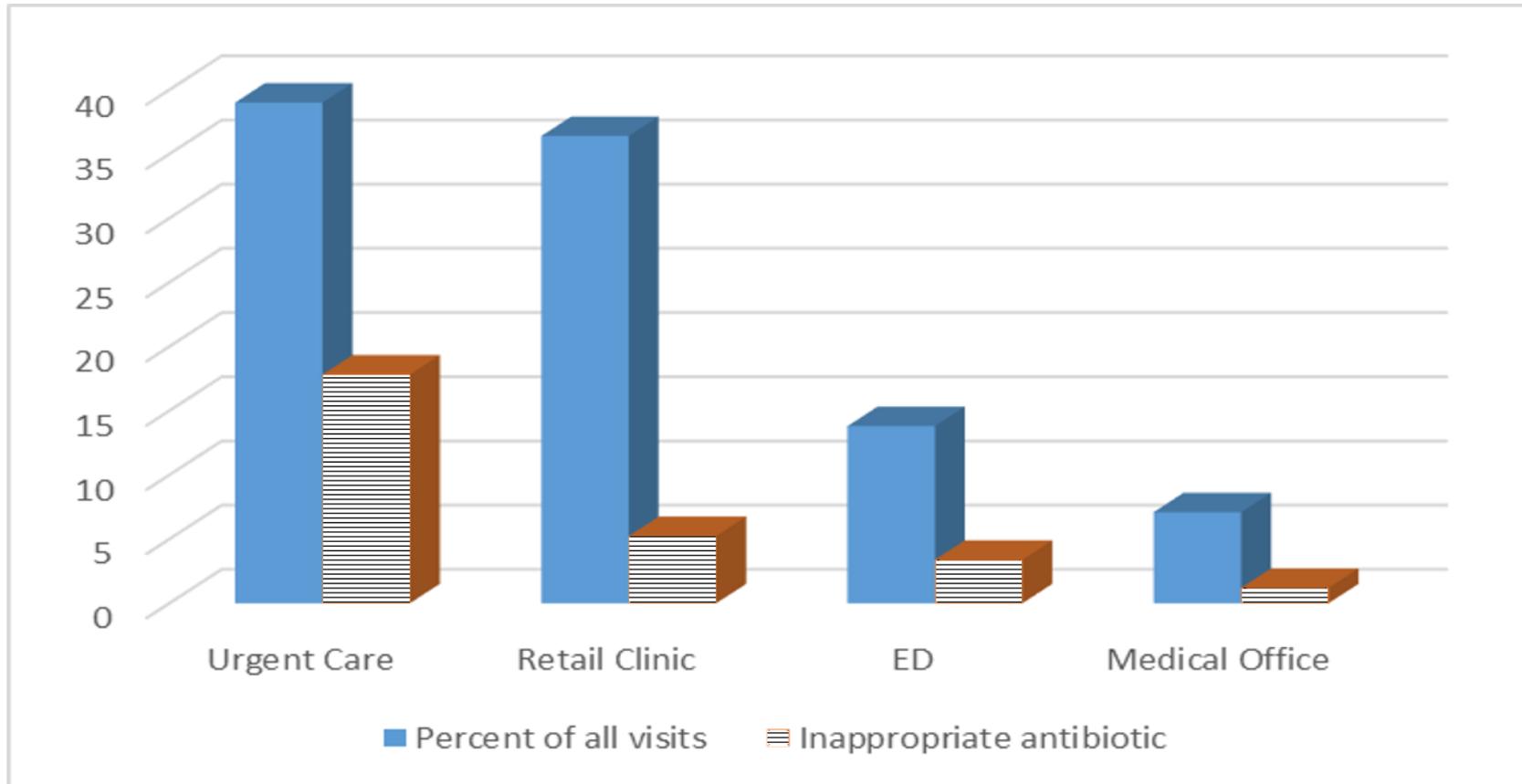
1. UCA – Urgent Care Industry White Paper 2018

2. Kalorama information. Urgent care market (clinic growth, revenues by procedure, IVD and vaccine sales 2018)



As a rapidly growing segment of outpatient care, urgent care has an ability to significantly impact antibiotic prescribing rates, both good and bad.

Antibiotic Prescriptions by Location



Palms, D., et. al Comparison of Antibiotic Prescribing in Retail Clinics, Urgent Care Centers, Emergency Departments, and Traditional Ambulatory Care Settings in the United States. JAMA Intern Med. 2018;178(9):1267-1269

Antibiotic use linked to nearly 40% of all UC visits and of those 45% were for antibiotic inappropriate respiratory diagnoses (URI, Brochitis/Bronchiolitis, Asthma, Influenza, Non-suppurative OM and viral pneumonia). Antibiotics were prescribed for 13.8% of all ED visits but had the second highest rate of inappropriate antibiotic use at 24.6%. Office based visits had an overall antibiotic prescription rate of 7.1% in this study however, a study in Pediatrics from 2019 (Ray KN, Shi Z, Gidengil CA, et al. Antibiotic Prescribing During Pediatric Direct-to-Consumer Telemedicine Visits. Pediatrics. 2019;143(5):e20182491) found an antibiotic prescription rate of 31% in PCP offices.

Pediatric Urgent Care

- 24% of all urgent care visits are for patients <18 years old¹
- Only 9.6% of urgent care locations have a pediatrician on staff²
- Approximately 500 dedicated pediatric urgent care sites in the country

1. FAIR Health White Paper March, 2018

2. Weinick RM, Bristol SJ, DesRoches CM. Urgent care centers in the U.S.: findings from a national survey. BMC Health Serv Res. 2009;9:79. Published 2009 May 15. doi:10.1186/1472-6963-9-79

However, there is a specific challenge in this pediatric population. While nearly a quarter of all urgent care visits are for pediatric patients, less than 10% of locations have a pediatrician on staff. Most of these are at dedicated pediatric urgent care sites, which, while growing represent less than 5% of all urgent care locations.

Antibiotic Use in Pediatric Urgent Care

- Limited data at this time but frequent inappropriate antibiotic use are in common pediatric illness such as URI, Bronchiolitis, Asthma, Influenza, Non-suppurative OM and viral pneumonia
- Pediatricians have lower rates of antibiotic use for URI in both office visits and urgent care

| ARI Diagnosis Category* | Setting Specialty | Total N = 544,531 Total (N = 544,531) n (%) | Office Visit n = 439,783 | | | Urgent Care Center n = 72,890 | | | RHC n = 14,458 NP/PA (n = 14,458) n (%) | ED n = 17,400 ED (n = 17,400) n (%) |
|-----------------------------|---|---|--------------------------------|------------------------------|--------------------------------|-------------------------------|-----------------------------|--------------------------------|---|---|
| | | | PEDS (n = 298,802) n (%) | FP (n = 108,554) n (%) | NP/PA (n = 32,427) n (%) | PEDS (n = 28,373) n (%) | FP (n = 26,433) n (%) | NP/PA (n = 18,084) n (%) | | |
| Upper respiratory infection | Denominator | 124,907 | 69,154 | 27,432 | 7115 | 5086 | 6335 | 3300 | 2287 | 4198 |
| | Children receiving antibiotics from pharmacies, n (%) | 19,763 (16) | 6054 (9) | 7563 (28) | 2107 (30) | 395 (8) | 1896 (30) | 954 (29) | 188 (8) | 606 (14) |
| Acute bronchitis | <i>P</i> value | | Reference | <0.001 | <0.001 | 0.02 | <0.001 | <0.001 | 0.37 | <0.001 |
| | Denominator | 35,412 | 16,709 | 9995 | 1846 | 1223 | 2477 | 1266 | 343 | 1553 |
| | Children receiving antibiotics from pharmacies, n (%) | 26,573 (75) | 12,796 (77) | 7521 (75) | 1379 (75) | 925 (76) | 1987 (80) | 950 (75) | 158 (46) | 857 (55) |
| | <i>P</i> value | | Reference | 0.01 | 0.07 | 0.45 | <0.001 | 0.21 | <0.001 | <0.001 |

*Similar results for other ARI conditions (acute otitis media, sinusitis and pharyngitis are shown in an online Supplemental Digital Content Table 4).
ED, emergency departments; FP, family physicians; NP/PA indicates nonphysicians (ie, nurse practitioners or physician assistants); PEDs, pediatrician; RHC, retail health clinic.

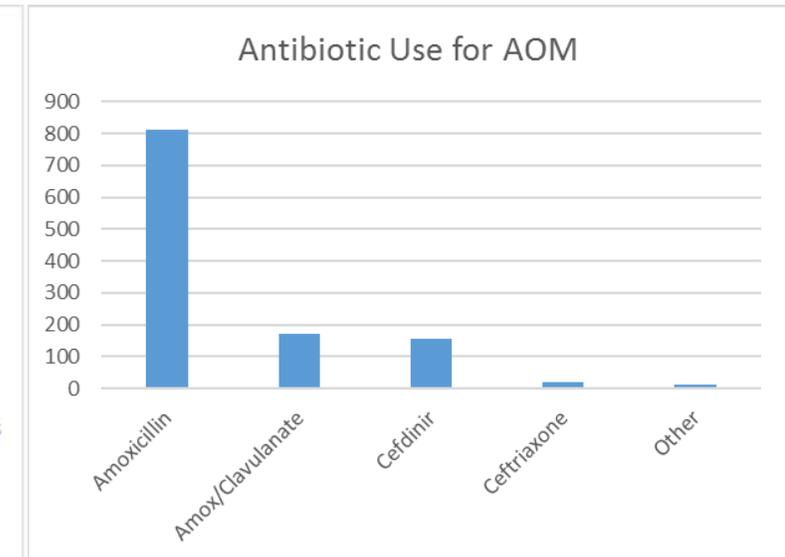
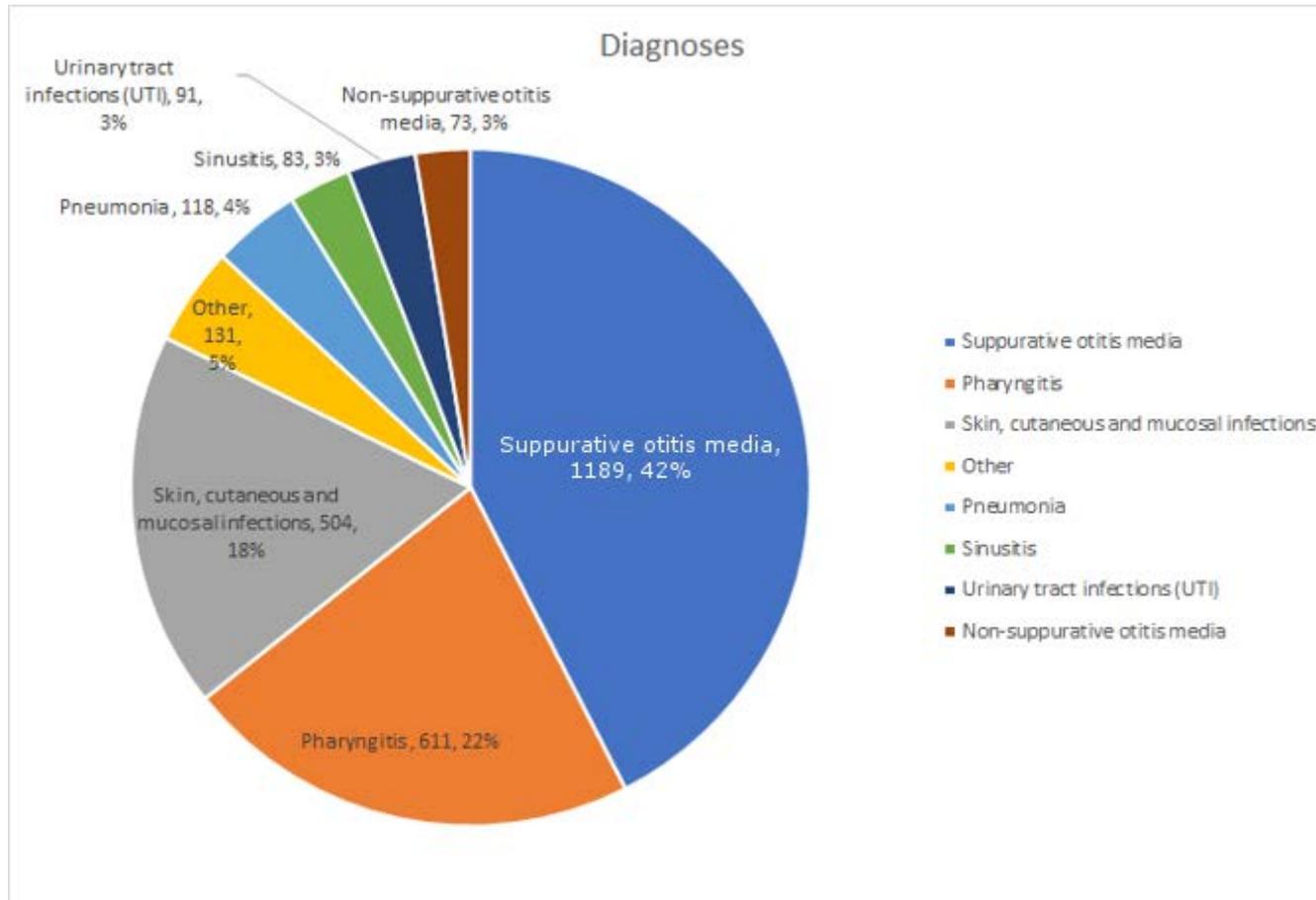
Agiro, A PhD, et al. Variation in Outpatient Antibiotic Dispensing for Respiratory Infections in Children by Clinician Specialty and Treatment Setting. *The Pediatric Infectious Disease Journal*: December 2018 - Volume 37 - Issue 12 - p 1248–1254

So, while the health care world in general and urgent care specifically, struggles with antibiotic stewardship. If we take a closer look at how many pediatricians approach antibiotic use we begin to see a different picture. The vast majority of inappropriate antibiotic use is for common pediatric illnesses such as URI, bronchiolitis, asthma, influenza, non-suppurative OM and viral pneumonia. In this recent study from the *Pediatric Infectious Disease Journal* we can see that while family practice and NP/PA providers prescribe antibiotics nearly 30% of the time in either the office or urgent care, pediatricians are between 9 and 8% in those areas respectively.

SPUC Antibiotic Stewardship Program

- Collaboration with SPUC and The Antibiotic Resistance Action Center (ARAC) with technical experts from the Centers for Disease Control and Prevention's Office of Antibiotic Stewardship.
- Study Aim #1 (Primary): Build capacity for implementing quality improvement projects at the local and multi-institutional level in pediatric urgent care.
- Study Aim #2: Understand the prescribing patterns for antibiotics in specialized pediatric urgent care centers.
- Study Aim #3: Implement a randomized cluster trial of interventions to reduce inappropriate antibiotic prescribing.
- Reduce inappropriate antibiotic use in participating pediatric urgent cares by 20% from baseline by November 30, 2019.

Indications for Antibiotic Use



Vast majority of indication are for appropriate antibiotic use in initial study sample with 153 provider and 20 different institutions. Drilling down into AOM, amoxicillin was the most common antibiotic used followed but amox/clav reflecting good use of narrow spectrum antibiotics with cefdinir and ceftriaxone (3rd generation cephalosporins) used sparingly.

Interventions

- Commitment letter from study participants posted in patient care rooms
- Dialogue Around Respiratory Illness Treatment (DART modules)
- Patient education handouts for Strep Throat testing and Delayed Antibiotics

Strep Throat Testing: Is it Right for my Child?

What is a strep throat test?

The rapid strep test is a swab of the back of the throat. Results are ready in 10-20 minutes. We confirm negative rapid strep results by sending a swab to the lab for a culture. Culture test results often take 2-5 days to come back. You will only get a phone call if the rapid strep test was negative and the culture was positive.

Facts about strep throat

- Most sore throats are caused by viruses and do not need antibiotics.
- Strep throat is most common in children 5-15 years old and in winter/spring months
- Symptoms of both strep throat and viral sore throat are: sore throat, fever, headache, upset stomach, throwing up
- If your child also has a cough, runny nose, hoarse voice, eye redness, or runny poop, this means it is more likely their sore throat is caused by a virus than by strep. **Children with these symptoms do not need a strep test.**

What are reasons my child should be tested for strep?

- For children with **strep symptoms and no other cold symptoms**, testing can help doctors tell viral and strep germs apart.
- Children with strep germs need antibiotics to stop problems such as Acute Rheumatic Fever and throat abscess.
- Children with **viral throat germs don't need antibiotics.**

What are reasons to avoid strep testing?

- **Many children can be carriers of strep bacteria.** They may have germs in their throat that don't cause them to get sick. Those children will test positive for strep.
- The strep test can't tell apart the difference between being a carrier and having a strep throat infection.
- Strep throat is rare in children under the age of 3 so we rarely test for it in very young children.

What are reasons my child shouldn't take unnecessary antibiotics?

- Antibiotics have **side effects**
 - Minor side effects are rash, upset belly, throwing up and runny poop.
 - Major side effects are allergic reactions, stomach infections, and immune system reactions.

Only taking antibiotics when needed helps **stop antibiotic resistance**

When bacteria become used to antibiotics, the bacteria can get stronger. The more antibiotics that are used, the harder it is to kill the bacteria.

What Is Delayed Prescribing?



WAIT. DO NOT FILL YOUR PRESCRIPTION JUST YET.

Your healthcare professional believes your illness may resolve on its own.

First, follow your healthcare professional's recommendations to help you feel better without antibiotics. Continue to monitor your own symptoms over the next few days.

- Rest.
- Drink extra water and fluids.
- Use a cool mist vaporizer or saline nasal spray to relieve congestion.
- For sore throats in adults and older children, try ice chips, sore throat spray, or lozenges.
- Use honey to relieve cough. Do not give honey to an infant younger than 1.

If you do not feel better in ____ days/hours or feel worse, go ahead and fill your prescription.

If you feel better, you do not need the antibiotic, and do not have to risk the side effects.

Waiting to see if you really need an antibiotic can help you take antibiotics only when needed. When antibiotics aren't needed, they won't help you, and the side effects could still hurt you. Common side effects of antibiotics can include rash, dizziness, nausea, diarrhea, and yeast infections.

Antibiotics save lives, and when a patient needs antibiotics, the benefits outweigh the risks of side effects. You can protect yourself and others by learning when antibiotics are and are not needed.

To learn more about antibiotic prescribing and use, visit www.cdc.gov/antibiotic-use.



Kids (and Their Parents) Say the Damnedest Things

- “Every time she gets a cold, she ends up with strep throat.”
- “Well my doctor gave me antibiotics and my kid has the same symptoms.”
- “We are going out of town tomorrow and want to get her started on something before we leave.”
- “She’s allergic to penicillin.”
- “We knew something was wrong because she wanted to come.”





Thank You