

ASP UPDATES

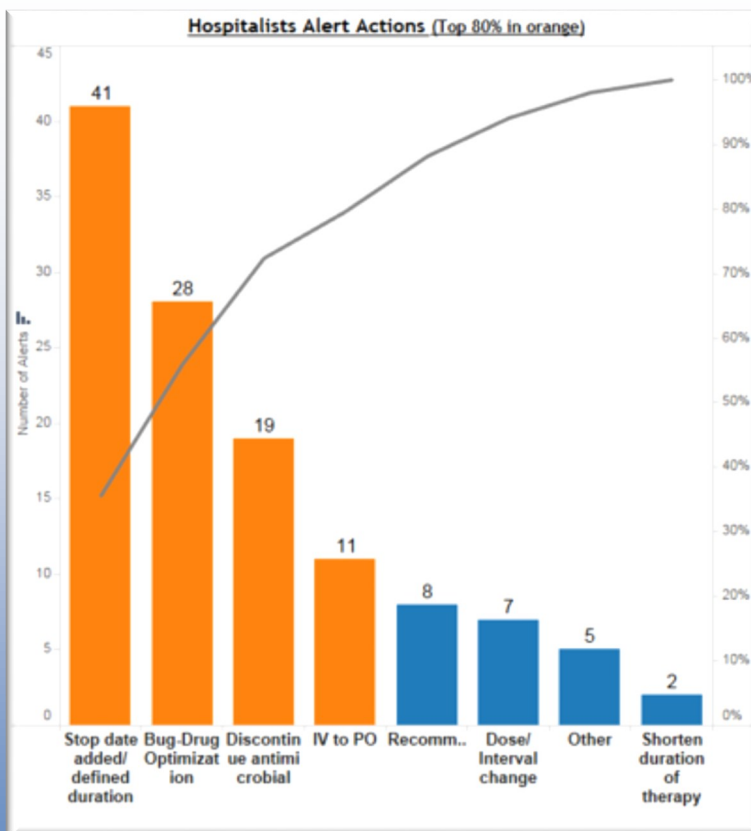
St. Louis Children's Hospital Antimicrobial Stewardship Program

June 2017

ASP Spotlight HOSPITALISTS

| ASP Actions | % of Actions Accepted |
|---------------------------------------|-----------------------|
| Bug-Drug Optimization | 68.2% |
| Discontinue antimicrobial | 41.2% |
| Dose/Interval change | 50.0% |
| IV to PO | 100.0% |
| Other | 100.0% |
| Recommend Infectious Diseases consult | 83.3% |
| Shorten duration of therapy | 50.0% |
| Stop date added/defined duration | 91.2% |
| Total | 74.7% |

In each ASP newsletter we want to showcase the great work individual departments are doing to improve antimicrobial use for their patients. In this article we are focusing on the hospitalists. This data represents the ASP alerts for patients admitted to the hospitalist service which can occur on a variety of general pediatrics floors. This service averages approximately 43 alerts per month and 10 ASP actions per month (23% of alerts result in an ASP action).

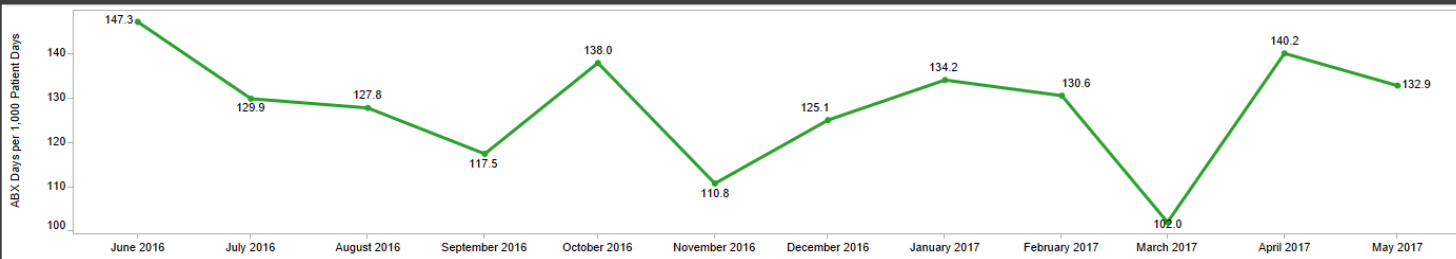


The top 3 ASP actions for the hospitalists include: 1) stop date added/defined duration; 2) bug-drug optimization; 3) discontinue antimicrobial. Since starting the ASP rounds in August 2016, the most common reasons for discontinuing therapy are viral infection (antibiotics are not indicated) and infection ruled out. For bug-drug optimization approximately 46% are to narrow empiric antimicrobial therapy and 36% are to narrow based on culture results, while 14% are to broaden empiric antimicrobial therapy. Overall the acceptance rate for ASP actions is 75% for this service. The action of least acceptance currently are discontinue antimicrobial. The hospitalists have been very welcoming to the antimicrobial stewardship program and have been a great resource to help us understand the needs of the community providers. We are excited to partner with them and provide the best care to our patients.

SLCH Antimicrobial Utilization

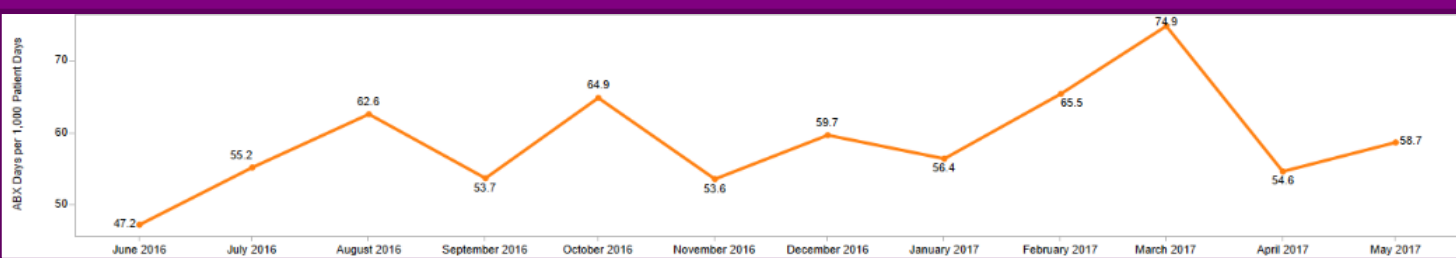
BROAD SPECTRUM AGENTS FOR HOSPITAL ACQUIRED / MULTI-DRUG RESISTANT INFECTIONS

(Amikacin, Aztreonam, Cefepime, Ceftazidime-Avibactam, Ceftolozane-tazobactam, Colistimethate, Gentamicin, Imipenem-cilastatin, Meropenem, Piperacillin-tazobactam, Tigecycline, Tobramycin)



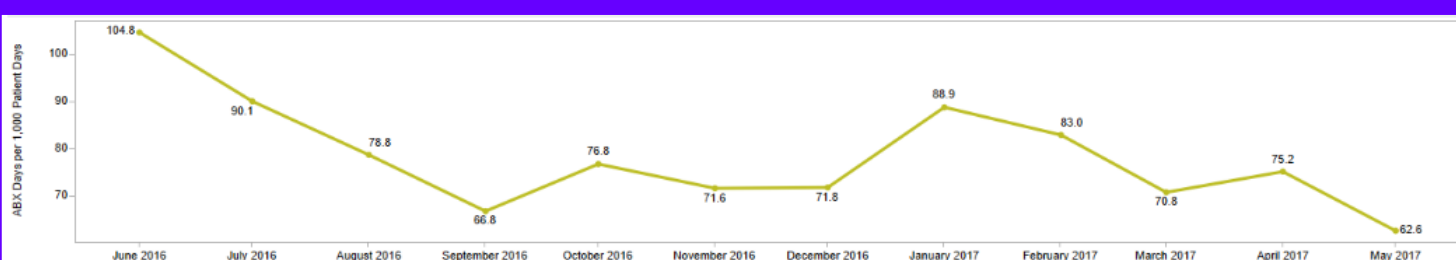
BROAD SPECTRUM AGENTS FOR COMMUNITY-ACQUIRED INFECTIONS

(Cefotaxime, Ceftriaxone, Ciprofloxacin, Ertapenem, Levofloxacin, Moxifloxacin)



ANTI-MRSA AGENTS

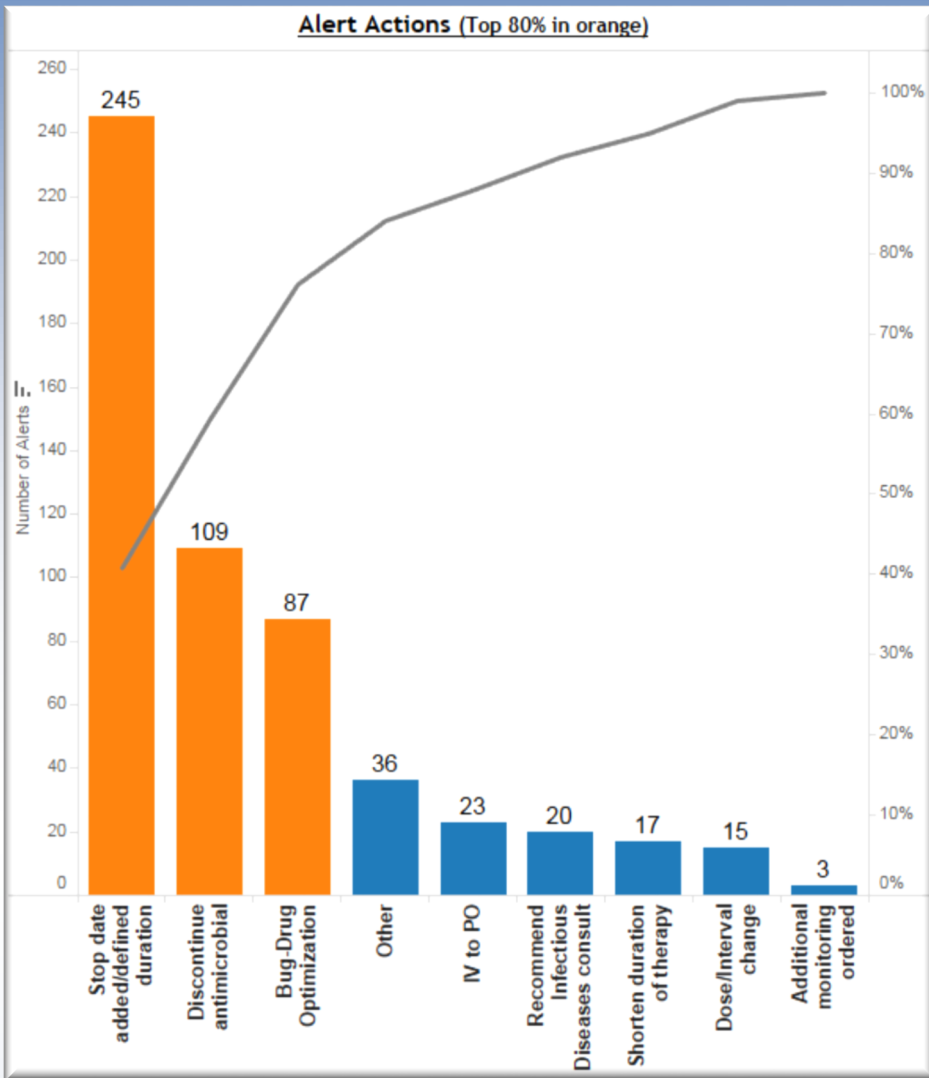
(Ceftaroline, Daptomycin, Linezolid, Telavancin, Vancomycin)



Overall, our quantity of antibiotic use measured in days of therapy per 1000 patient days is stable. However, In April and May our broad-spectrum hospital acquired infection antimicrobials have been higher than previous months. We continue to see a dramatic decrease in the use of anti-MRSA use when compared to June of 2016.

The most common recommendations being made by the ASP continue to be adding a stop date, bug-drug optimization, and discontinuing the antimicrobial. These 3 recommendations comprise 80% of all recommendations. Narrowing the antibiotic is the most common bug-drug optimization recommendation. Top reasons for discontinuing an antimicrobial are redundant therapy, completed course, and infection being ruled out.

SLCH ASP Alerts

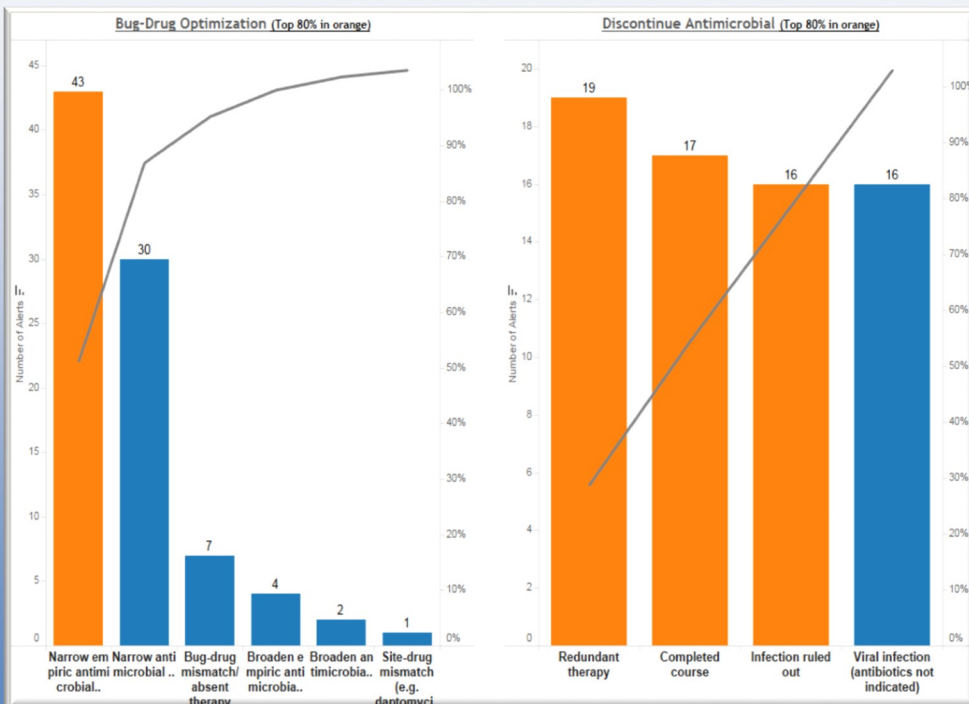


Why is the data presented as antibiotic days of therapy (DOT) per 1,000 patient days?

Antibiotic days of therapy (DOT) per 1,000 patient days is a commonly used metric endorsed by the CDC to evaluate the amount of drug being utilized in an institution. Each antibiotic used in a day counts as one antibiotic day. For example, a patient receiving ampicillin and gentamicin for 5 days would equal 10 antibiotic DOT.

With fluctuations in patient census within the hospital, it can be difficult to compare utilization of antimicrobials month to month or even year to year. To account for this variability, the antibiotic DOT are standardized per 1,000 patient days.

This metric does not account for appropriateness of antibiotic use, but allows us to follow the amount being used over time.



ASP Action Acceptance

| ASP Actions | % of Actions Accepted |
|---------------------------------------|-----------------------|
| Additional monitoring ordered | 66.7% |
| Bug-Drug Optimization | 73.5% |
| Discontinue antimicrobial | 59.6% |
| Dose/Interval change | 78.6% |
| IV to PO | 76.2% |
| Other | 84.4% |
| Recommend Infectious Diseases consult | 70.6% |
| Shorten duration of therapy | 41.2% |
| Stop date added/defined duration | 89.3% |

DID YOU KNOW?

MYTHBUSTERS: True or False

TRUE/FALSE: Cefdinir (Omnicef) has the same microorganism coverage as Ceftriaxone and Cefotaxime since they are all third generation cephalosporins.

ANSWER: FALSE

While they all have similar coverage of gram negative organisms (such as *Escherichia coli*), Cefdinir has less gram positive coverage, with poor coverage of methicillin-sensitive *Staphylococcus aureus* and only 50-70% sensitivity for *Streptococcus pneumoniae*.

TRUE/FALSE: Group A *Streptococcus* (GAS) pharyngitis can be treated with 3 day course of IV/IM Ceftriaxone.

ANSWER: FALSE

While 3 days of Ceftriaxone has been studied and found effective for the treatment of acute otitis media, it has not been studied for the treatment of GAS pharyngitis. The IDSA guidelines recommend “patients with acute GAS pharyngitis should be treated with an appropriate antibiotic at an appropriate dose for a duration likely to eradicate the organism from the pharynx (usually 10 days).”

By: Miranda Nelson, PharmD, BCPPS

Source:

Harrison CJ, Woods C, Stout G, et al. Susceptibilities of *Haemophilus influenzae*, *Streptococcus pneumoniae*, including serotype 19A, and *Moraxella catarrhalis* paediatric isolates from 2005 to 2007 to commonly used antibiotics. *J Antimicrob Chemother* 2009;63:511-519.

Shulman ST, Bisno AL, Clegg HW, et al. Clinical practice guideline for the diagnosis and management of Group A Streptococcal Pharyngitis: 2012 Update by the Infectious Diseases Society of America. *Clin Infect Dis* 2012;55:e86-e102.

SLCH ASP Trivia

What of the following organisms is/are known to produce beta lactamases as a mechanism of resistance?

- A. *Escherichia coli*
- B. *Staphylococcus aureus* (methicillin susceptible)
- C. *Moraxella catarrhalis*
- D. All of the above

Answer provided on page 3

Contact Us

Give us a call or email us for more information about antimicrobial stewardship

Jason Newland
ASP Medical Director
(314) 424-4929
jnewland@wustl.edu

Miranda Nelson
ASP Pharmacist
(314) 738-4216
Miranda.Nelson@bjc.org

The ASP On-Call contact information is also listed in SmartWeb under Antimicrobial Stewardship

VISIT US ON THE WEB AT:

www.stlouischildrens.org/health-care-professionals/resources/clinical-resources/antimicrobial-stewardship-program-asp

