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## **134** Improving Aztreonam Stewardship Through a Dedicated Penicillin Allergy Testing Pharmacist



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**RATIONALE:** Dedicated pharmacist-led inpatient penicillin allergy testing (PAT) programs have been shown to be an effective delabeling method. We hypothesized that a dedicated PAT pharmacist incorporated into an aztreonam stewardship program results in significant reduction in use of aztreonam, a costly antibiotic.

**METHODS:** Retrospective chart review of patients who underwent penicillin testing with the assistance of a clinical decision support tool (CDS), which prompts a PAT consult when aztreonam is ordered, and a dedicated PAT pharmacist during the years 2014-2020 focusing on cost savings and inpatient days on aztreonam as a metric of antimicrobial stewardship. Times without a dedicated PAT pharmacist were compared to times where one was on staff. Primary outcomes included rates of aztreonam use and estimated cost savings.

**RESULTS:** Prior to introducing the CDS, aztreonam administrations per 1000 patient days were 2.11; at the end of the studied period, this rate had decreased to 0.62. In 2017 and 2018, there were gaps of time without a dedicated PAT pharmacist and aztreonam use increased from 1.12 to 1.26 and 1.03 to 1.46, respectively. In 2020, there was a gap of time without a PAT pharmacist but the rate of aztreonam use was similar at 0.64 vs 0.62. **CONCLUSIONS:** Since the addition of a CDS to a dedicated inpatient PAT pharmacist led delabeling program, we have measured a substantial decrease in aztreonam use. Aztreonam is 3-10x more expensive than comparable antibiotics and we estimate a 71% cost savings since starting our program. The impact of this program was less during the COVID pandemic.

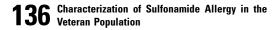
## **135** Penicillin allergy de-labeling by primary care physicians



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**RATIONALE:** Inaccurate penicillin allergy (PCN-A) labels pose a major public health challenge. De-labeling in primary care is crucial but underutilized. We demonstrate an effective model for PCN-A evaluation and de-labeling by primary care physicians (PCPs) in an adult primary care clinic.

METHODS: PCPs identify and refer patients with PCN-A label to the clinic pharmacist, who risk stratifies patients using a validated, institutional beta lactam risk stratification and decision support algorithm. Risk status is conveyed to PCPs, who counsel patients accordingly. Patients with no risk are de-labeled based on history. Low risk individuals are scheduled for follow up with a nurse practitioner for oral amoxicillin challenge. Moderate risk patients are referred to Allergy/Immunology for evaluation. RESULTS: Fourteen patients were evaluated between July 7th and August 24th, 2021. The majority of patients (64%) were low risk and 56% were delabeled after a direct oral amoxicillin challenge. Of the remaining patients, 14% had no increased risk, and 21% had moderate risk. 1 patient was delabeled by history alone, while the other refused. One third of patients are awaiting challenge, and 11% (n=1) refused. All patients who underwent direct oral challenge had no subsequent immediate or delayed symptoms. CONCLUSIONS: Direct oral amoxicillin challenge for low risk PCN-A patients in primary care is effective and safe. Established algorithms and use of existing clinic resources to pre-screen, risk stratify, and administer challenge can minimize strain on PCPs.





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**METHODS:** In an IRB-approved protocol, we queried the electronic medical records of the William S Middleton Veterans Hospital in Madison, WI to identify patients with sulfonamide allergy and study the demographics, health care utilization, antibiotic use, and comorbidities in this high-risk population. Data was collected from 10/1/19 to 8/9/21.

**RESULTS:** Our initial query resulted in 284 patients with sulfonamide allergy who accounted for 355 inpatient admissions and 423 emergency room (ER) visits. Amongst ER patients, 14/25 antibiotic prescriptions (56%) were beta-lactams, and the only patient to receive trimethoprim-sulfameth-oxazole was diagnosed with allergy two days later. Amongst inpatients, 40/81 antibiotic orders (49%) were for beta-lactams, and 14 were for vanco-mycin, daptomycin, or carbapenems (17%). Only two inpatients received trimethoprim-sulfamethoxazole after their original allergy was listed.

**CONCLUSIONS:** A significant number of patients with sulfonamide allergy in our system ultimately required emergency and/or inpatient care with most receiving beta-lactam antibiotics. This data will be used as a needs assessment to create a pathway for evaluation and de-labeling of sulfonamide allergy at our institution.

SARS-CoV-2 and Perceived Physical, Mental and Social Health in Northern California



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**RATIONALE:** In April 2020, we began collecting data on long-term immunity in local survivors of SARS-CoV-2 and included a validated measure of self-reported health outcome data to assess perceptions of post-infection function.

**METHODS:** The Sean N. Parker Center for Allergy and Asthma Research has followed 264 volunteers for 16 months. All were recruited on presentation for SARS-CoV-2 testing if positive; if a family member tested positive and our volunteer did as well (asymptomatic volunteer); or on discharge from care for SARS-CoV-2. Volunteers returned every 1-3 months for blood tests and PROMIS-10 questionnaires. These questionnaires are validated and have a long history of providing reliable assessment of physical, psychological and social health.

**RESULTS:** Our volunteers encompassed all genders, multiple ethnic identities and spanned decades in age. More symptoms (0-10+) at presentation correlated with worse self-reported physical and mental health: p=0.0005 correlation for mental health and p=0.0101 for physical health. Self-identifying Latinx participants reported higher mental (p=0.0075) and physical (p=0.00053) health burden than non-Latinx. More severe disease and more underlying health conditions were associated with worse self-reported physical health ((p=0.013; p=0.23) for mental health; p=0.0034; p=0.23 for mental health, respectively).

**CONCLUSIONS:** Self-reported data reflect disease severity and burden of underlying conditions. We believe efforts to initiate prompt treatment of SARS-CoV-2 symptoms and ongoing efforts to bolster perceived health and management of chronic conditions are necessary to help our community.