Outcomes from an Inpatient Beta-Lactam Allergy Guideline Across a Large US Health System

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**Abbreviated Title:** Beta-Lactam Allergy Guideline Outcomes

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**Supplemental Table 1.** Hospital characteristics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **MGH** | **BWH** | **NWH** | **NSMC\*** | **BWF** |
| **Hospital Type** | Academic | Academic | Community‡ | Community | Community† |
| **Massachusetts Location** | Boston | Boston | Newton | Salem/Lynn | Boston |
| **Number of Beds**§ | 1,035 | 793 | 265 | 396 | 162 |
| **Number of Annual Admissions**║ | 49,688 | 42,192 | 15,409 | 17,377 | 10,033 |
| **Clinical champion**  | Allergy physician | Allergy physician | Pharmacist | Infectious Diseasesphysician | HospitalistPhysician\*\* |
| **Antibiotic Stewardship Program Members** | Physicians, Pharmacists, Infection Control, Clinical Microbiology  | Physicians, Pharmacists, Infection Control, Clinical Microbiology  | Physicians, Pharmacists, Infection Control, Clinical Microbiology,Nursing | Physicians, Pharmacists | Physicians, Pharmacists |
| **Allergy/Immunology Consultation Available** | Yes | Yes | No | Yes | No |
| **Inpatient penicillin skin testing available** | Yes | Yes | No | Yes | No |
| \* NSMC is comprised of Salem Hospital and Union Hospital‡ Housestaff from MGH† Housestaff from BWH§ Licensedbeds of 9/30/17║ October 1, 2016 through September 30, 2017\*\*Clinical champion during study period was not consistent; a new hospitalist joined our group 07/2017*Abbreviations:* MGH, Massachusetts General Hospital; BWH, Brigham and Women’s Hospital; NWH, Newton Wellesley Hospital; NSMC, North Shore Medical Center; BWF, Brigham and Women’s Faulkner Hospital; ICU, Intensive Care Unit |

**Supplemental Table 2.** Patient and hospital predictors of hypersensitivity reactions and adverse drug reactions.

|  |  |  |
| --- | --- | --- |
| **Hypersensitivity Reactions** | **Odds ratio [95% CI]\*** | **p-value** |
| Female | 1.33 [0.68, 2.60] | 0.41 |
| Age | 0.99 [0.98, 1.01] | 0.47 |
| Allergy to penicillin | 1.08 [0.43, 2.71] | 0.87 |
| Allergy to cephalosporin | 2.96 [1.34, 6.58] | 0.008 |
| Historical reaction severe IgE | 1.59 [0.78, 3.25] | 0.20 |
| Allergy consultation | 1.83 [0.77, 4.35] | 0.17 |
| Ordering provider not a medical doctor | 1.12 [0.55, 2.27] | 0.76 |
| Community hospital | 0.61 [0.21, 1.78] | 0.36 |
| **Adverse Drug Reactions** | **Odds ratio [95% CI]\*** | **p-value** |
| Female | 1.86 [1.11, 3.13] | 0.02 |
| Age | 1.00 [0.99, 1.01] | 0.73 |
| Allergy to penicillin | 1.18 [0.58, 2.42] | 0.65 |
| Allergy to cephalosporin | 2.49 [1.37, 4.51] | 0.003 |
| Historical reaction severe IgE | 1.27 [0.74, 2.19] | 0.38 |
| Allergy consultation | 2.42 [1.30, 4.51] | 0.005 |
| Ordering provider not a medical doctor | 1.00 [0.53, 1.56] | 0.74 |
| Community hospital | 0.59 [0.27, 1.29] | 0.19 |
| \*Multivariable logistic regression model results |