**Appendix A**

**Emergency Department Survey on Antimicrobial Utilization**

The purpose of this survey is to determine baseline antimicrobial utilization patterns in the Emergency Department (ED). The information collected will be used by the Antimicrobial Stewardship Program to focus education and determine the impact of quality improvement interventions started in the ED. Please answer the questions using only knowledge that would be readily available to you during your practice in the ED as we want your answers to reflect your usual practice.

**COMMUNITY ACQUIRED PNEUMONIA (CAP)**

What is your first choice antibiotic regime for an adult patient with CAP?

If combination therapy desired select all answers that apply.

**1. Among patients you expect will be admitted to the ICU?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Piperacillin/Tazobactam | 43.8% | 7 |
| Moxifloxacin | 18.8% | 3 |
| Ceftriaxone | 37.5% | 6 |
| **Azithromycin** | **50.0%** | **8** |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**2. Among patients you expect will be admitted to the ward?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| **Moxifloxacin** | **50.0%** | **8** |
| Amoxicillin Clavulanic acid | 6.3% | 1 |
| Ceftriaxone | 43.8% | 7 |
| Azithromycin | 37.5% | 6 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**3. Among patients you expect will be discharged?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Cefuroxime | 0.0% | 0 |
| Moxifloxacin | 18.8% | 3 |
| **Amoxicillin Clavulanic Acid** | **56.3%** | **9** |
| Azithromycin | 31.3% | 5 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**4. How many days of antibiotics do you usually provide if you discharge the patient from the ED?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| 3 days | 0.0% | 0 |
| 5 days | 0.0% | 0 |
| **7 days** | **68.8%** | **11** |
| 10 days | 31.3% | 5 |
| 14 days | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**URINARY TRACT INFECTIONS (UTI)**

**5. What is your first choice antibiotic for a non-pregnant female patient with uncomplicated UTI (No risk factors for failure such as obstruction, anatomic abnormality, urologic dysfunction)?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Nitrofurantoin | 37.5% | 6 |
| Ciprofloxacin | 6.3% | 1 |
| Amoxicillin | 0.0% | 0 |
| Cephalexin | 12.5% | 2 |
| **Septra** | **43.8%** | **7** |
| Ceftriaxone  | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**6. How many days of therapy would you usually provide if you discharge a patient with**

**uncomplicated UTI from the ED?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| 3 days | 31.3% | 5 |
| **5 days** | **43.8%** | **7** |
| 7 days | 18.8% | 3 |
| 10 days | 6.3% | 1 |
| 14 days | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**7. What is your first choice intravenous antibiotic for a complicated UTI (Patient HAS risk factors for failure such as obstruction, anatomic abnormality, or urologic dysfunction)?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Ciprofloxacin  | 26.7% | 4 |
| **Ceftriaxone** | **66.7%** | **10** |
| Ampicillin | 0.0% | 0 |
| Meropenem or Ertapenem | 0.0% | 0 |
| Piperacillin/Tazobactam | 0.0% | 0 |
| Ampicillin + Gentamicin | 6.7% | 1 |
| Ampicillin + Ciprofloxacin | 0.0% | 0 |
| Septra | 0.0% | 0 |
|  | **Total Responses** | **15** |
|  | **Total Skipped** | **2** |

**8. What is your first choice oral antibiotic for a complicated UTI (Patient HAS risk factors for failure such as obstruction, anatomic abnormality, or urologic dysfunction)?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Cephalexin  | 0.0% | 0 |
| Amoxicillin | 0.0% | 0 |
| Amoxicillin Clavulanic Acid | 12.5% | 2 |
| Nitrofurantoin  | 0.0% | 0 |
| Septra  | 12.5% | 2 |
| **Ciprofloxacin** | **75.0%** | **12** |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**9. How many days of therapy would you usually provide if you discharge a patient with complicated UTI from the ED?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| 3 days | 0.0% | 0 |
| 5 days | 0.0% | 0 |
| **7 days** | **37.5%** | **6** |
| **10 days** | **37.5%** | **6** |
| 14 days | 25.0% | 4 |
| 21 days | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**10. What is your first choice antibiotic for pyelonephritis requiring admission to hospital?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Ciprofloxacin  | 18.8% | 3 |
| Ampicillin + Gentamicin | 6.3% | 1 |
| **Ceftriaxone** | **75.0%** | **12** |
| Piperacillin/Tazobactam | 0.0% | 0 |
| Septra | 0.0% | 0 |
| Ampicillin + Ciprofloxacin | 0.0% | 0 |
| Meropenem/Ertapenem | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**Skin and Soft-Tissue Infection (SSTI)**

**11. What is your first choice antibiotic for an adult patient with cellulitis you expect to be discharged?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| **Cephalexin** | **100.0%** | **16** |
| Clindamycin PO | 0.0% | 0 |
| Clindamcyin IV | 0.0% | 0 |
| Ceftriaxone | 0.0% | 0 |
| Cefazolin | 0.0% | 0 |
| Cloxacillin | 0.0% | 0 |
| Moxifloxacin | 0.0% | 0 |
| Ciprofloxacin | 0.0% | 0 |
| Septra | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**12. How many days of therapy would you usually provide for cellulitis if you discharge the patient from the ED?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| 3 days | 0.0% | 0 |
| 5 days | 0.0% | 0 |
| **7 days** | **75.0%** | **12** |
| 10 days | 18.8% | 3 |
| 14 days | 6.3% | 1 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**13. What antibiotic would you provide if anaphylactic penicillin allergy was present?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| **Clindamycin** | **81.3%** | **13** |
| Vancomycin | 0.0% | 0 |
| Azithromycin | 0.0% | 0 |
| Moxifloxacin | 0.0% | 0 |
| Septra | 12.5% | 2 |
| Ciprofloxacin | 6.3% | 1 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**14. What is your first choice antibiotic regime for an adult with non limb or life threatening diabetic foot infection without clinical evidence of osteomyelitis you expect to be discharged? (Can choose more than one option if a combination regime is your preferred choice)**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| **Clindamycin** | **43.8%** | **7** |
| Moxifloxacin | 0.0% | 0 |
| **Ciprofloxacin** | **43.8%** | **7** |
| Amoxicillin Clavulanic Acid | 0.0% | 0 |
| Cefazolin | 6.3% | 1 |
| Flagyl | 12.5% | 2 |
| Cephalexin | 31.3% | 5 |
| Ceftriaxone | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**15. How many days of therapy do you usually provide if you discharge the patient from the ED?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| 7 days | 18.8% | 3 |
| **10 days** | **56.3%** | **9** |
| 14 days | 25.0% | 4 |
| 21 days | 0.0% | 0 |
| 28 days | 0.0% | 0 |
| 42 days | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**SEPSIS NYD**

**16. What is your first choice antibiotic regime for an adult with suspected undifferentiated severe sepsis (NO focus of infection evident on initial clinical assessment)? (Can choose more than one option if a combination regime is your preferred choice)**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Moxifloxacin | 0.0% | 0 |
| **Piperacillin/Tazobactam** | **87.5%** | **14** |
| Ciprofloxacin  | 0.0% | 0 |
| Flagyl | 0.0% | 0 |
| Meropenem | 0.0% | 0 |
| Ceftriaxone | 12.5% | 2 |
| Gentamicin | 0.0% | 0 |
| Ceftazidime | 0.0% | 0 |
| Vancomycin | 12.5% | 2 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**17. If anaphylactic penicillin allergy? (Can choose more than one option if a combination regime is your preferred choice)**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| Ciprofloxacin | 25.0% | 4 |
| **Flagyl** | **50.0%** | **8** |
| Vancomycin | 43.8% | 7 |
| Meropenem | 31.3% | 5 |
| Moxifloxacin | 18.8% | 3 |
| Gentamicin | 0.0% | 0 |
| Clindamycin | 12.5% | 2 |
| Septra  | 0.0% | 0 |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

**\*18. Please rank these educational topics in order of priority to you.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **1** | **2** | **3** | **4** | **5** | **6** | **Rating Average** | **Rating Count** |
| **UTI** | 12.5% (2) | 12.5% (2) | 18.8% (3) | 18.8% (3) | **25.0% (4)** | 12.5% (2) | 3.69 | 16 |
| **CAP** | 6.3% (1) | 31.3% (5) | 0.0% (0) | 18.8% (3) | **37.5% (6)** | 6.3% (1) | 3.69 | 16 |
| **SSTI** | 12.5% (2) | 6.3% (1) | **50.0% (8)** | 12.5% (2) | 6.3% (1) | 12.5% (2) | 3.31 | 16 |
| **Sepsis NYD** | 12.5% (2) | 12.5% (2) | 18.8% (3) | **37.5% (6)** | 6.3% (1) | 12.5% (2) | 3.50 | 16 |
| **Antimicrobial Resistance and local Resistance Patterns** | **56.3% (9)** | 18.8% (3) | 0.0% (0) | 0.0% (0) | 25.0% (4) | 0.0% (0) | 2.19 | 16 |
| **Antibiotic Allergies** | 0.0% (0) | 18.8% (3) | 12.5% (2) | 12.5% (2) | 0.0% (0) | **56.3% (9)** | 4.63 | 16 |
|  |  |  |  |  |  |  | **Total Responses** | **16** |
|  |  |  |  |  |  |  | **Total Skipped** | **1** |

**19. What format or media would you prefer to have a quick reference for recommended therapy for common infections?**

|  |  |  |
| --- | --- | --- |
|  | **Response Percent** | **Response Count** |
| PDF file for smartphone  | 93.8% | **15** |
| Pocket reference card  | 50.0% | 8 |
| Other - please make suggestions below | 12.5% | **2** |
|  | **Total Responses** | **16** |
|  | **Total Skipped** | **1** |

Other (please specify):

* on icare [Hospital intranet]; I like the accessibility and one stop reliability of icare
* file on desktop of all ED computers

**20. Please indicate any other infectious diseases education you would like to see provided.**

* osteomyelitis
* diabetic/chronic lower leg ulcers
* TB- when to suspect in the ED Travel med: fever in returning traveller
* Std's
* I applaud this survey. I think it would be great to have an easily accessible quick antibiotic reference to ensure we're doing the right thing. For UTI/CAP, it might be worthwhile to differentiate between pediatrics vs. pregnant patients vs elderly vs patients in long-term care facilities. For CAP patients who are discharged, perhaps differentiate between healthy vs those with Risk factors (e.g. copd

**21. Any other comments, suggestions regarding strategies to improve antimicrobial utilization in the ED?**

* ER specific ID recommendations
* A best practices cheat sheet will help.
* Just keep talking to us!
* Ongoing education based on local resistance patterns through rounds and more communication with our ID colleagues. Thank you for this great initiative!
* Cellulitis Treatment in different populations (healthy, diabetic foot, renal failure etc