### BACKGROUND
- Fluid stewardship is a process that promotes proper administration of intravenous (IV) fluids and medications with the goals to reduce fluid overload, improve patient outcomes, and reduce adverse events. A recent study presented at the ACCP Annual Meeting 2019 showed that antibacterials are the top IV medication contributor to total fluid intake based on volume and frequency of administration. However, there are limited data classifying the IV antibacterials that significantly contribute to fluid status.

### OBJECTIVES
- Determine the impact of antibacterials on ICU volume intake
- Identify IV antibacterial agents that are the greatest contributors to fluid intake

### OUTCOMES
- **Primary**
  - Determine the proportion of cumulative intake as antibacterials
  - Characterize the frequency of IV antibacterial administration
- **Secondary**
  - Identify the volume of IV antibacterials administered

### STUDY DESIGN
- **Design:** IRB-approved, retrospective, nested cohort study
- **Time Frame:** January 2018 through December 2018
- **Site:** St. Joseph’s/Candler Health System (SJCHS) – Savannah, GA

#### Inclusion Criteria
- Adults ≥ 18 years old
- ICU admission
- ICU length of stay ≥ 4 days
- Received an IV antibacterial agent

#### Exclusion Criteria
- Pregnant females
- Receiving total parenteral nutrition
- End stage renal disease
- DNR or DNI status at time of admission
- Transferred from another hospital
- Specific indication for maintenance IV fluids (i.e. diabetic ketoacidosis)

### RESULTS

#### Data from ACCP 2019:

**Top 5 IV Antibacterial Agents by Administration Frequency Over First 3 ICU Days (n=48)**

<table>
<thead>
<tr>
<th>Antibacterial</th>
<th>Frequency (n)</th>
<th>Volume (mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piperacillin-Tazobactam</td>
<td>32</td>
<td>1205</td>
</tr>
<tr>
<td>Vancomycin</td>
<td>24</td>
<td>5000</td>
</tr>
<tr>
<td>Ceftriaxone</td>
<td>20</td>
<td>1500</td>
</tr>
<tr>
<td>Levofloxacin</td>
<td>16</td>
<td>4000</td>
</tr>
<tr>
<td>Cefazolin</td>
<td>12</td>
<td>3000</td>
</tr>
</tbody>
</table>

#### Average Percent of Cumulative Intake of IV Antibacterials Over First 3 ICU Days:

- **Antibacterials:** 78.8% (5606 mL)
- **All Other Fluid Sources:** 21.2% (1205 mL)

### CONCLUSIONS & DISCUSSION
- Vancomycin & piperacillin-tazobactam are the overall top IV antibacterial contributors to ICU fluid intake.
- De-escalating from IV route to PO and discontinuing antibacterials when appropriate would promote both fluid and antimicrobial stewardship.
- Concentrating infusions would promote fluid stewardship.
- Study limitations:
  - Data were collected over 3 calendar days, not 72 hours, from ICU admission
  - Reliance on accurate charting
  - All patients were admitted into a medical-surgical ICU

### REFERENCES

#### DISCLOSURES
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