Hospital 1 (H1, 1654 beds) implemented an antibiotic (ATB) management program in 2006. In hospital 2 (H2, 1582 beds), only carbapenems are prescribed in this way.

### Background
- H1’s ATB management program
- ATB prescriptions
- Conciliation
- Junior pharmacist
- Infectious diseases specialist

### Purpose
- H1’s and H2’s consumption and resistance data from 2011 to 2013 extracted from the pharmacy management and bacteriology laboratory software
- Data uploaded on the ConsoRes® tool to shape them
- 19 bacteria / antibiotic couples of clinical interest
- Resistance rates (RR) were compared using a Fisher’s exact test, mean ATB consumption using a Student test.

### Material and Methods
- **Couples**
  - E. coli / cefotaxim, ciprofloxacin (CFX), imipenem, ertapenem
  - E. cloacae / cefotaxim, CFX, imipenem, ertapenem
  - K. pneumoniae / cefotaxim, CFX, imipenem, ertapenem
  - A. baumannii / imipenem
  - P. aeruginosa / ceftazidim, CFX, imipenem
  - S. aureus / oxacillin, vancomycin, teicoplanin

### RESULTS

#### Evolution 2011 - 2013

<table>
<thead>
<tr>
<th>H1</th>
<th>H2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical units</td>
<td>0.004</td>
</tr>
<tr>
<td>Medical units</td>
<td>0.007</td>
</tr>
<tr>
<td>Intensive care units</td>
<td>0.008</td>
</tr>
<tr>
<td>Psychiatric units</td>
<td>0.003</td>
</tr>
<tr>
<td>Long-term care units</td>
<td>0.002</td>
</tr>
<tr>
<td>Global</td>
<td>0.001</td>
</tr>
</tbody>
</table>

#### MRSA

| MRSA significantly higher in H2 but lower consumption of anti-MRSA |

### Discussion
- **1. Better use of ATB doesn’t necessarily mean lower consumption!**
- Differences between both hospitals in terms of RR and consumption have several possible explanations (different bacterial ecologies between the 2 areas, etc.), but H1’s program seems to have a positive impact on both criteria.
- Few studies showed the impact of such a program on a hospital’s microbial ecology (2-4)
- Pediatric units: H1’s count more beds and different activities associated with more important ATB consumption, like orthopedic surgery, mucoviscidosis…
- Improvement still to be made in H1: 3GC consumption still increasing, and ciprofloxacin consumption, in constant decrease from 2011 to 2013 but both significantly higher than H2’s.
- Lower consumption of anti-MRSA in H2: difference of prescription habits between both hospitals (most consumed molecule, different usual doses, and difference betweenDDD and Prescribed Daily Dose (PDD) for each molecule).

### Conclusion
- This comparison showed a trend that has to be confirmed over upcoming years.


(2) Bevilacqua S, Demoré B, Erpling ML. Effects of an operational multidisciplinary team on hospital antibiotic use and cost in France: a cluster controlled trial. Int J Clin Pharm 2011; 33: 521-528
