

P1296

Paper Poster Session

Antimicrobial consumption in the hospital

## Prescribing of last resort antibiotics in the hospital sector continues to increase in England

Berit Muller-Pebody\*<sup>1</sup>, Alan Johnson<sup>1</sup>, Graeme Rooney<sup>1</sup>, David Ladenheim<sup>1</sup>, Diane Ashiru-Oredope<sup>2</sup>, Susan Hopkins<sup>2</sup>

<sup>1</sup>National Infection Service, Public Health England, Hcai & Amr, London, United Kingdom

<sup>2</sup>Public Health England, Public Health Strategy, London, United Kingdom

**Background:** Surveillance of antimicrobial prescribing is crucial to inform national and local antibiotic guidance. . The English Surveillance Programme for Antimicrobial Surveillance and Resistance (ESPAUR) established national surveillance of antibiotic prescribing in community and hospital care in 2014. The data showed that hospital prescribing for broad-spectrum antibiotics (quinolones, cephalosporins, carbapenems, glycopeptides) had increased by 10% and by 9% for 're-emerged' polymyxins between 2011 and 2013. As use of last resort antibiotics in hospitals warrants close monitoring we have measured changes in prescribing levels of these antibiotics between 2013 and 2014 to inform prescribers and antibiotic stewardship.

**Material/methods:** Hospital prescribing data for England from 2011-2014 was obtained via IMS Health. The database holds information on all antibiotics dispensed by hospital pharmacies in all NHS hospital trusts for hospital inpatients. The classification of data was based on the Anatomical Therapeutic Chemical (ATC) classification system. Daily Defined Doses (DDDs) were used as the unit of measurement. Prescribing rates were calculated using mid-year resident population rates published by the Office for National Statistics.

**Results:** Total hospital prescribing of broad-spectrum antibiotics continued to rise from 176.2 to 187.4 DDD per 1000 population (6%) between 2013 and 2014. Glycopeptide use increased by 14%, quinolones and carbapenem use by 7% whereas cephalosporins were only used slightly more (1%). Polymyxyn use rose by 17% from 5.5 to 6.4 DDD per 1000 population in the one-year period (see Table 1).

**Table 1: Broad-spectrum/last resort antibiotic prescribing in the hospital sector, using Defined Daily Doses (DDD) per 1000 inhabitants, England, 2011-2014**

	2011	2012	2013	2014	change 2011-2013	change 2013-2014
<b>Quinolones</b>	66.1	68.0	72.4	77.2	10%	7%
<b>Cephalosporins</b>	47.6	49.1	48.7	49.1	2%	1%
<b>Carbapenems</b>	24.1	25.7	28.0	30.0	16%	7%
<b>Glycopeptides</b>	22.0	24.0	27.2	31.1	24%	14%
<b>Total broad-spectrum</b>	<b>159.7</b>	<b>166.9</b>	<b>176.2</b>	<b>187.4</b>	<b>10%</b>	<b>6%</b>

<b>Polymyxins</b>	5.0	5.4	5.5	6.4	9%	17%
-------------------	-----	-----	-----	-----	----	-----

**Conclusions:** Prescribing of last resort antibiotics in the hospital sector continues to increase in England. Increase in quinolone, cephalosporin and carbapenem use seemed to be slowing down between 2013 and 2014 though, whereas glycopeptides and polymyxins showed a steep increase in levels of prescribing over the one year period.