

A symposium sponsored by Cubist at the
20th Congress of the European Association of
Hospital Pharmacists (EAHP)
COH - Congress Center Hamburg
Hamburg, Germany

**Benefits of Antibiotic
Stewardship in
the Management of
Acute Infections**
Thursday, 26 March 2015
12:00-13:30, Hall 6

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Merck & Co., Inc., Kenilworth, NJ, USA

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Housekeeping Notes

- Welcome to this Royal Pharmaceutical Society accredited symposium
- Please turn off all cell phones
- Question cards are available inside your program book. Please hand your question card to a hostess for the panel to address
- We welcome your feedback. Kindly complete the evaluation form and hand it to a hostess as you leave

Thank you

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Voting Instructions

- When instructed, press the number button that corresponds with your selected answer
- If you want to change your response, use the 'c' key to clear and enter your new answer
- Your answers will be collected and may be used for future research



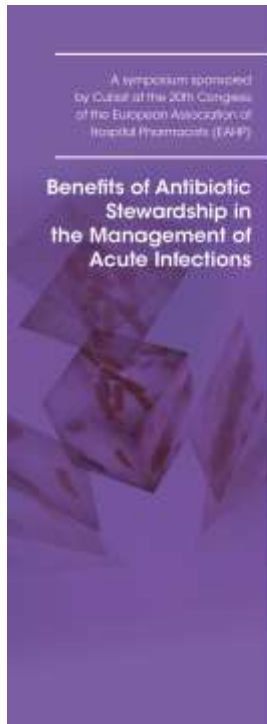
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**Benefits of Antibiotic
Stewardship in
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What is your role in antimicrobial management at your institution?

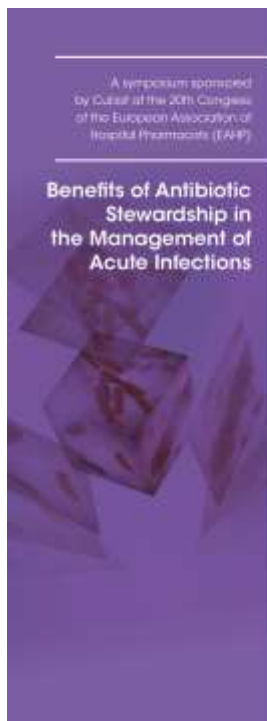
1. Chief Pharmacist/Director of Pharmacy
2. Specialist pharmacist
3. Antimicrobial pharmacist
4. Formulary pharmacist
5. Other





Agenda

12:00	Chairman's welcome and introduction	Jonathan Cooke <i>Manchester, UK</i>
12:20	Antibiotic stewardship programs – How do they promote a “safer” environment	Christian Eckmann <i>Hannover, Germany</i>
12:40	Intravenous to oral switching, OPAT, and early discharge	Mark Gilchrist <i>London, UK</i>
13:00	The role of new antibiotics in the treatment of severe infections – Safety and efficacy features	Christian Eckmann <i>Hannover, Germany</i>
13:15	Q&A with panel discussion	All



Chairman's welcome and introduction

Jonathan Cooke
Manchester, UK

Disclosures

- Participated in commercial advisory boards for: Astellas, Cubist, HHI and Alere

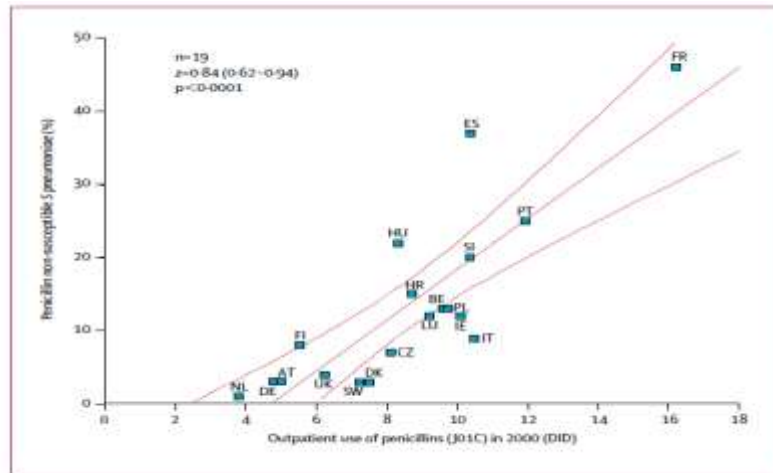
Non-commercial positions:

- Honorary Professor, Manchester Pharmacy School
- Visiting Professor, Department of Medicine, Imperial College London
- Chair, Antimicrobial Stewardship Sub-Group of the Department of Health Advisory Committee on Antimicrobial Resistance and Healthcare Associated Infection
- Chair, Department of Health “Start Smart - Then Focus”
- Trustee and Director, Fungal Infection Trust

EU healthcare-associated infections in numbers

- 1 hospitalised patient in 20
- 4.1 million patients a year
- 37,000 deaths
(25,000 AMR)
- €1.5 billion

Correlation between penicillin use and prevalence of penicillin non-susceptible *Staphylococcus pneumoniae*



AT, Austria; BE, Belgium; HR, Croatia; CZ, Czech Republic; DID, defined daily doses per 1000 inhabitants daily; DK, Denmark; ES, Spain; FI, Finland; FR, France; DE, Germany; HU, Hungary; IE, Ireland; IT, Italy; LU, Luxembourg; NL, The Netherlands; PL, Poland; PT, Portugal; SI, Slovenia; SW, Sweden; UK, England only
Goossens H, et al. *Lancet*. 2005;365(9459):579-87.



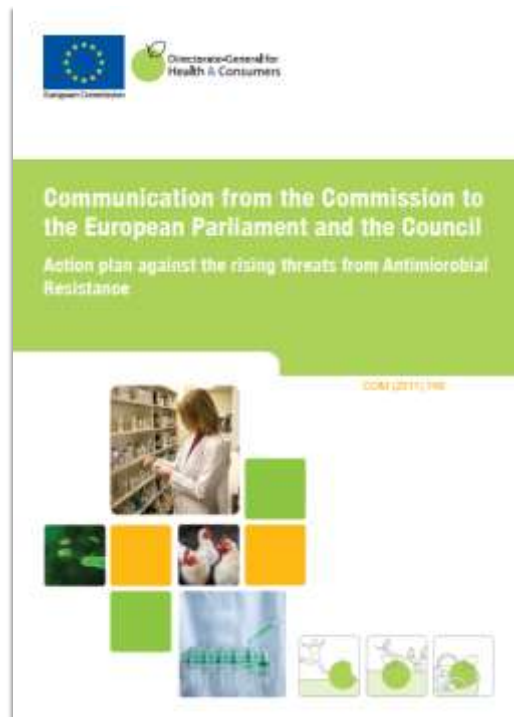
European Commission

- 1999 – 8th June - Council Resolution on antibiotic resistance: a strategy against the microbial threat
- 2001 – 20th June - Communication from the Commission on a community strategy against antimicrobial resistance
- 2001 – 15th November - Council Recommendation on the prudent use of antimicrobial agents in human medicine



European Commission

- 2009 – 9th June - Council Recommendation on patient safety, including the prevention and control of healthcare-associated infections
- 2011 – 15th November - European Commission Brussels, Communication from the Commission to the European Parliament and the Council: Action plan against the rising threats from Antimicrobial Resistance



Action plan against the rising threats from antimicrobial resistance

- Prudent use of antimicrobials
- Infection prevention and control
- Development of new antimicrobials
- Development of diagnostic tools in human and veterinary medicine
- Development of vaccines and other preventive measures
- Surveillance of AMR and antimicrobial consumption
- Additional research and innovation
- Communication, education and training

AMR, antimicrobial resistance

What standards for antimicrobial stewardship programs (ASP) do you have in place?

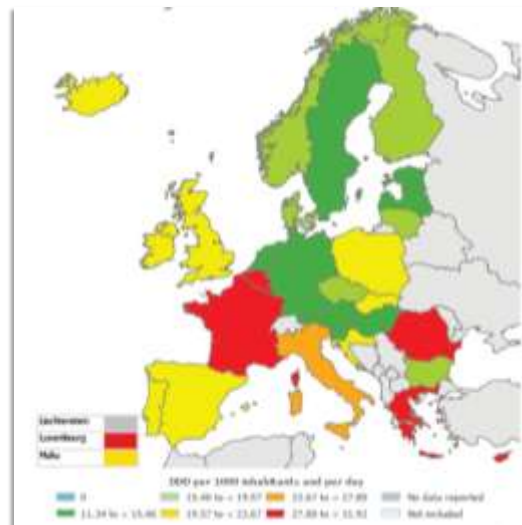
Antimicrobial strategy	Policy for restricted access
Antimicrobial policy	Indication on prescription
Evidence-based antimicrobial guidelines	Course length or review date on prescription
Evidence-based surgical prophylaxis guidelines	Printed or electronic summary available to all wards and prescribers, e.g. pocket guides
Antimicrobial formulary	Choice of antimicrobial informed by local sensitivity patterns

1. Comprehensive – all 10 of above
2. Extensive – 7 of above
3. Moderate – 4 of above
4. Fair – fewer than 4 of above





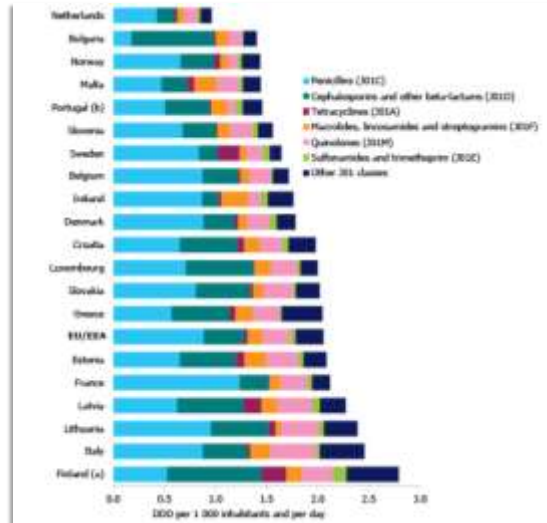
Consumption of antibacterials for systemic use in the community, EU/EEA countries, 2012*



*Expressed as defined daily dose (DDD) per 1000 inhabitants and per day.

European Centre for Disease Prevention and Control (ECDC). 2012. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-consumption-europe-esac-net-2012.pdf>

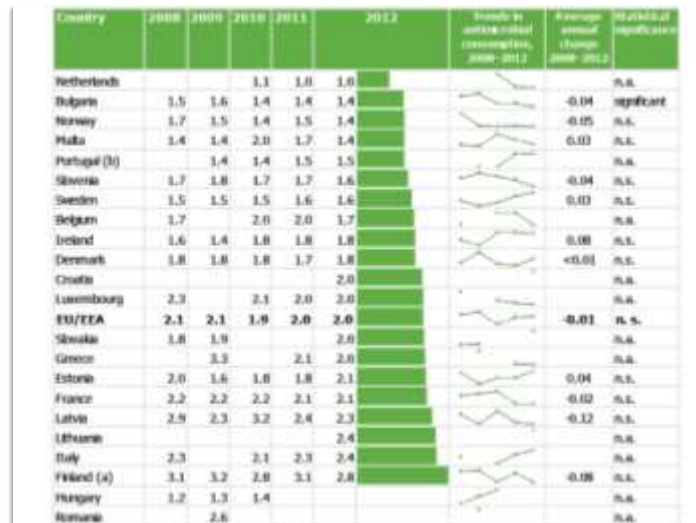
Consumption of antibacterials for systemic use in the hospital sector in EU/EEA countries, 2012*



*Expressed as defined daily dose (DDD) per 1000 inhabitants and per day.

European Centre for Disease Prevention and Control (ECDC). 2012. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-consumption-europe-esac-net-2012.pdf>

Trends of consumption of antibacterials for systemic use in the hospital sector in EU/EEA countries, 2008–2012*



*Expressed as defined daily dose (DDD) per 1000 inhabitants and per day.

European Centre for Disease Prevention and Control (ECDC). 2012. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-consumption-europe-esac-net-2012.pdf>

Percentage of invasive *Pseudomonas aeruginosa* isolates with resistance to piperacillin/tazobactam, 2013



European Centre for Disease Prevention and Control (ECDC). 2013. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-surveillance-europe-2013.pdf>

Percentage of invasive *Pseudomonas aeruginosa* isolates with resistance to fluoroquinolones, 2013



European Centre for Disease Prevention and Control (ECDC). 2013. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-surveillance-europe-2013.pdf>

Percentage of invasive *Pseudomonas aeruginosa* isolates with resistance to carbapenems, 2013



European Centre for Disease Prevention and Control (ECDC). 2013. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-surveillance-europe-2013.pdf>

Percentage of invasive methicillin-resistant *Staphylococcus aureus* (MRSA) isolates, 2013



European Centre for Disease Prevention and Control (ECDC). 2013. <http://www.ecdc.europa.eu/en/publications/Publications/antimicrobial-resistance-surveillance-europe-2013.pdf>

Antibiotic use in 530 French hospitals: results from a surveillance network at hospital and ward levels in 2007

Catherine Dumartin^{1,2*}, François L'Héritier³, Muriel Péfau¹, Xavier Bertrand^{4,5}, Pascal Jarro⁶, Sandrine Boussat⁴,
Pacôme Angara⁴, Ludvine Lacavé³, Karine Saby⁴, Anne Savéy⁷, Florence Nguyen⁷, Anne Carbone³
and Anne-Marie Rogues^{1,2}

¹Southwest Regional Coordinating Centre for Nosocomial Infection Control (CCLIN), Bordeaux, France; ²Unité INSERM 657, Bordeaux 2 University, Bordeaux, France; ³Paris and North CCLIN, Paris, France; ⁴East CCLIN, Nancy, France; ⁵Hospital Hygiene, University Hospital, Besançon, France; ⁶West CCLIN, Rennes, France; ⁷UMR5558 CNRS, Lyon 1 University, South-East CCLIN, Lyon, France

*Corresponding author: Southwest CCLIN, Hôpital Pellegrin, 33076 Bordeaux, France. Tel: +33-5-56-79-60-58; Fax: +33-5-56-79-60-12; E-mail: catherine.dumartin@chu-bordeaux.fr

Received 23 December 2009; returned 19 March 2010; revised 17 April 2010; accepted 28 May 2010

Objectives: Antibiotic use in French hospitals is among the highest in Europe. A study was carried out to describe antibiotic consumption for inpatients at hospital and at ward levels.

Overall antibiotic use according to hospital status

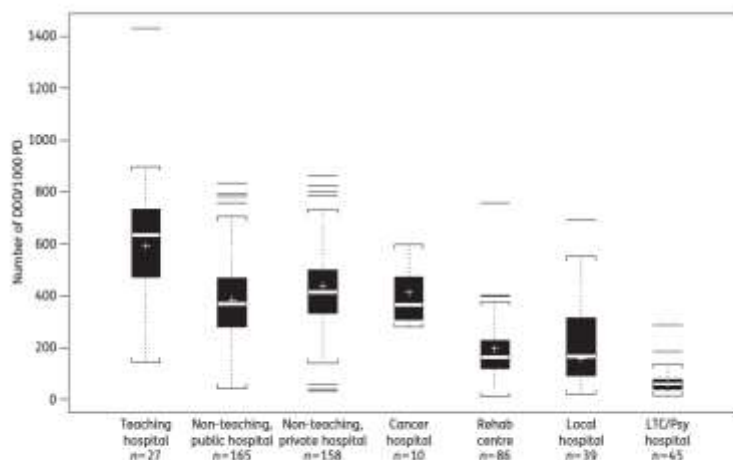
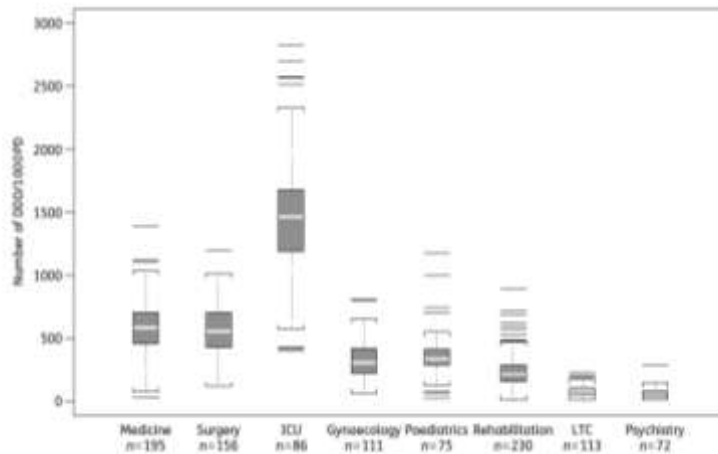


Figure 1. Overall antibiotic use according to hospital status, 2007 (DDD/1000 PD; n = number of participating hospitals). Box plot explanation: bottom of the box, lower quartile; top of the box, upper quartile; line in the middle, median; cross, pooled mean; end of the whiskers, lowest data point still within 1.5 times the interquartile range (IQR) below lower quartile and highest data point still within 1.5 times the IQR above upper quartile. Lines outside the whiskers: outliers. Rehab, rehabilitation; psy, psychiatric.

Overall antibiotic use according to clinical activity



DDD, defined daily dose; ICU, intensive care unit; LTC, long-term care; PD, patient-days
 Dumartin C, et al. / *Antimicrob Chemother.* 2010;65(9):2028-36.

How extensive are the ASP audit/review programs in place in your institution?

1. Comprehensive – point prevalence studies at least every 12 months and monthly/quarterly antimicrobial consumption data (e.g. DDDs) fed back to prescribing teams
2. Point prevalence studies only at least every 12 months
3. Monthly/quarterly antimicrobial consumption data (e.g. DDDs) only fed back to prescribing teams
4. None of above

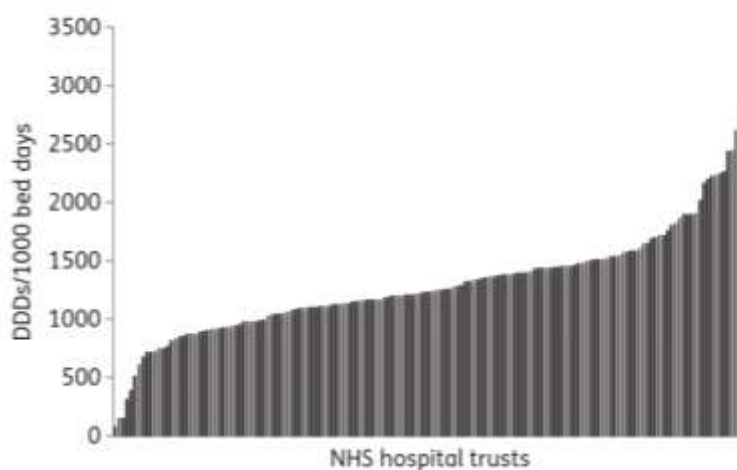


Longitudinal trends and cross-sectional analysis of English national hospital antibacterial use over 5 years (2008–13): working towards hospital prescribing quality measures

Jonathan Cooke^{1,2*}, Peter Stephens³, Diane Ashiru-Oredope⁴, Esmira Charani¹, Mathew Dryden⁵, Carole Fry⁶, Kieran Hand⁷, Alison Holmes⁸, Philip Howard⁹, Alan P. Johnson⁹, David M. Livermore^{10,11}, Paula Mansell¹², Clodna A. M. McNulty¹³, Sally Wellsted⁹, Susan Hopkins^{4,14} and Mike Sharland¹⁵

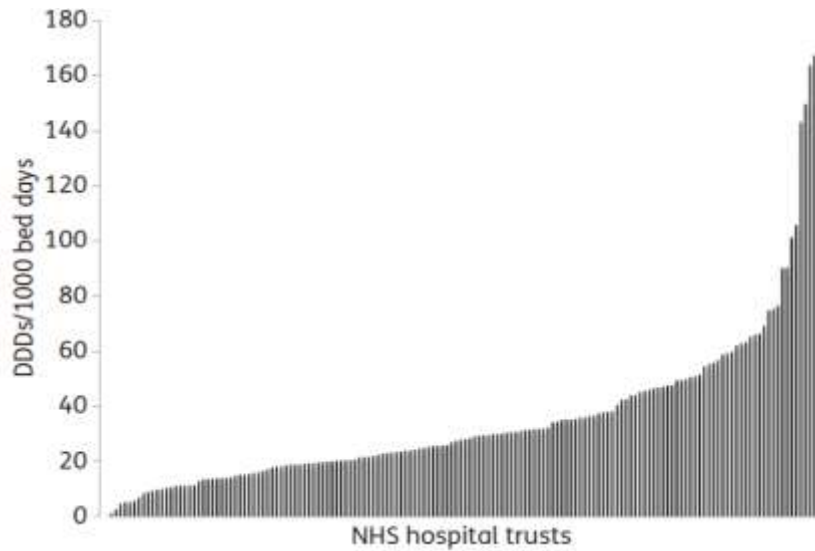
¹The Centre for Infection Prevention and Management, Division of Infectious Diseases, Department of Medicine, Imperial College London, London W12 0NN, UK; ²Faculty of Medical and Human Sciences, University of Manchester, Manchester, UK; ³NHS Health, 210 Pentonville Road, London, UK; ⁴Healthcare-Associated Infection, Antimicrobial Resistance and Stewardship and Healthcare-Associated Infections Programme, Public Health England, London, UK; ⁵Royal Hampshire County Hospital, Winchester, UK; ⁶Infectious Diseases and Blood Policy Branch, Department of Health, London, UK; ⁷Faculty of Health Sciences, University of Southampton, Southampton, UK; ⁸Leeds Teaching Hospitals NHS Trust, Leeds, UK; ⁹Department of Healthcare-Associated Infections and Antimicrobial Resistance, Centre for Infectious Disease Surveillance and Control, Public Health England, London, UK; ¹⁰Antimicrobial Resistance and Healthcare-Associated Infections Reference Unit, Public Health England, London, UK; ¹¹Norwich Medical School, University of East Anglia, Norwich, UK; ¹²The Care Quality

Total inpatient use of antibacterials (BNF 5.1, ATC J01) across 157 English hospitals, 2012–13



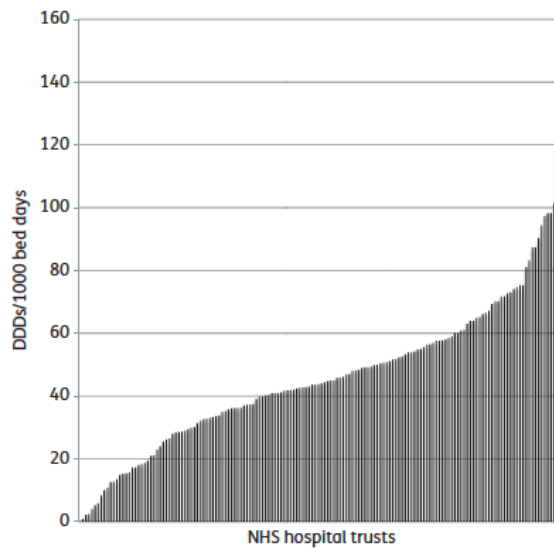
ATC, Anatomical Therapeutic Chemical; BNF, British National Formulary; DDD, defined daily dose.
Cooke J, et al. / *J Antimicrob Chemother*. 2015;70(1):279-85.

Total inpatient use of carbapenems across 157 English hospitals, 2012–13



DDD, defined daily dose.
Cooke J, et al. *J Antimicrob Chemother.* 2015;70(1):279-85.

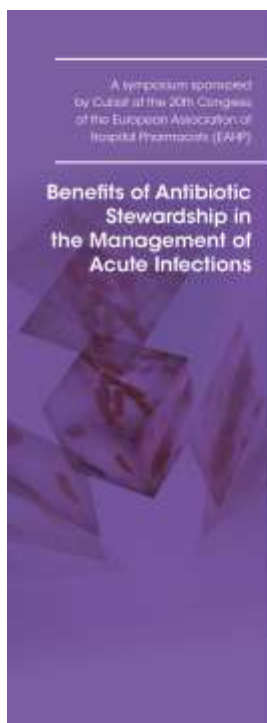
Total inpatient use of piperacillin/tazobactam across 157 English hospitals, 2012–13



DDD, defined daily dose.
Cooke J, et al. *J Antimicrob Chemother.* 2015;70(1):279-85.

How extensive are the ASP educational programs in place in your institution?

1. Comprehensive – >75% of all prescribers, pharmacists and nurses get educated on induction and followed up every year
2. Extensive – 50% to 75% of all prescribers, pharmacists and nurses get educated on induction and followed up every year
3. Moderate – 25% to 50% of all prescribers, pharmacists and nurses get educated on induction and followed up every year
4. Fair – fewer than 25% of all prescribers, pharmacists and nurses get educated on induction and followed up every year



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