How the All Wales Medicines Strategy Group (AWMSG) is contributing to Antimicrobial Stewardship in Wales

Phil Routledge

Chair, All Wales Medicines Strategy Group
Many health authorities now place limits on the antibiotics that may be used in their hospitals, to achieve reasonable economy consistent with adequate cover, and to reduce the development of resistant organisms.
AWMSG and Antibiotic Stewardship

- Roles and responsibilities of AWMSG

- AWMSG and antimicrobial issues

- Future developments
Established in 2002 to:

• Provide strategic advice for the Minister for Health and Social Services and NHS organisations

• Monitor and advise on prescribing issues

• Review appropriate use of existing medicines

• Appraise new (particularly high cost) medicines
<table>
<thead>
<tr>
<th></th>
<th><strong>NICE</strong></th>
<th><strong>SMC</strong></th>
<th><strong>AWMSG</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Established</strong></td>
<td>1999</td>
<td>2002</td>
<td>2002</td>
</tr>
<tr>
<td><strong>Remit</strong></td>
<td>England &amp; Wales</td>
<td>Scotland</td>
<td>Wales</td>
</tr>
<tr>
<td><strong>Referrals</strong></td>
<td>Technologies referred by Ministers for Health</td>
<td>All newly licensed medicines/formulations/indications</td>
<td>All newly licensed medicines/formulations/indications not on the NICE work programme</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Independent Group (HTA)</td>
<td>In-house team and New Drugs Committee (NDC)</td>
<td>In-house team at AWTTC &amp; New Medicines Group (NMG)</td>
</tr>
<tr>
<td><strong>Appraisal</strong></td>
<td>NICE Appraisal committee</td>
<td>Scottish Medicines Consortium</td>
<td>All Wales Medicines Strategy Group</td>
</tr>
<tr>
<td><strong>Meetings</strong></td>
<td>Twice monthly (in Public)</td>
<td>Monthly (in Private)</td>
<td>Monthly (in Public)</td>
</tr>
<tr>
<td><strong>Appraises orphans</strong></td>
<td>Yes (no specific policy)</td>
<td>Yes (uses “modifiers”)</td>
<td>Yes (no specific policy; aligned with NICE)</td>
</tr>
<tr>
<td><strong>Appraises ultra-orphans</strong></td>
<td>No</td>
<td>Yes (no specific policy: uses “modifiers”)</td>
<td>Yes (specific policy)</td>
</tr>
</tbody>
</table>
ALL WALES THERAPEUTICS AND TOXICOLOGY CENTRE (AWTTC)

• Phil Routledge (Clinical Director)
• Jamie Hayes (Medicines Management Lead)
• Karen Samuels (Heath Technology Lead)
• John Thompson (Toxicology Lead)
• Kath Haines (Lead, Welsh Analytical Support Unit)
• Tessa Lewis (GP Advisor)
• Rob Bracchi (Head of R&D, Chair of New Medicines Group)
• CVS Krishna, Alison Thomas & James Coulson (Clinical Pharmacologists)
• Dyfrig Hughes (Health Economics Advisor)
• Ruth Lang (Therapeutics) & Gloria Aldridge (Toxicology), Senior Managers
• 50 staff (Pharmacists, life scientists and administrative support staff)
AWMSG and Antibiotic Stewardship

• Roles and responsibilities of AWMSG

• AWMSG and antimicrobial issues

• Future directions
Since 2002, AWMSG has appraised 155 medicines for 200 indications, and approved 162.

34 of these approvals have involved antiviral agents.

There have been 4 appraisals of antibiotics in 12 years and all were recommended for use:

- Aztreonam lysine (Cayston®) for the suppressive therapy of chronic pulmonary infections due to *Pseudomonas aeruginosa* in patients with cystic fibrosis aged 6 years and older.
- Ceftaroline fosamil (Zinforo®) for the treatment of the following infections: complicated skin and soft-tissue infections and community-acquired pneumonia.
- Fidaxomicin (Dificlir®) for the treatment of adults with *Clostridium difficile* infections, also known as *C. difficile*-associated diarrhoea.
- Rifaximin (Xifaxanta®) for the treatment of travellers diarrhoea that is not associated with any of: fever, bloody diarrhoea, eight or more unformed stools in the previous 24 hours, occult blood or leucocytes in the stool.
Therapeutic priorities & AWMSG

• AWMSG defines 6–8 therapeutic areas each year

• Develops AWMSG National Prescribing Indicators and a National Audit

• These indicators are included by most Health Boards in their locally defined Clinical Effectiveness Prescribing Programme (CEPP)

• Particular focus on antibiotic prescribing since 2010-11
National Prescribing Indicators 2012-2013

- Total antibacterial items per 1,000 STAR-PUs
- Top nine antibacterials (penicillin V, flucloxacillin, amoxicillin, oxytetracycline, doxycycline, erythromycin, clarithromycin, trimethoprim and nitrofurantoin) as a % of total antibacterial items
- Cephalosporins as % of total antibacterial items
- Quinolones as % of total antibacterial items
- Co-amoxiclav as % of total antibacterial items
Measures in prescribing

- **Defined daily dosages (DDD):** unit of measurement whereby each medicine is assigned a value within its recognised dosage range. The value is the assumed average maintenance dose per day for a medicine when used for its main indication in adults. A medicine can have different DDDs depending on the route of administration.

- **Prescribing units (PU’s):** adopted to take account of the greater need of elderly patients for medication in reporting prescribing performance in primary care. Patients aged 65 years and over are counted as three prescribing units; patients under 65 years and temporary residents are counted as one prescribing unit.

- **STAR PU’s:** Specific Therapeutic group Age–sex Related prescribing units are designed to measure prescribing weighted for age and sex of patients. There are differences in the age and sex of patients for whom medicines in specific therapeutic groups are usually prescribed. To make such comparisons, STAR-PUs have been developed based on costs of prescribing items within therapeutic groups.
Trend in antibiotic usage as items per 1,000 STAR-PUs for summer (April–September) and winter (October–March) quarters (2010-2014)
Total antibacterial items per 1,000 STAR-PU’s
(Quarter ending March 2013)

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
Antibiotic usage as a percentage of total antibacterial items - Quarter ending September 2013

<table>
<thead>
<tr>
<th>Indicator</th>
<th>ABMU</th>
<th>Aneurin Bevan</th>
<th>BCU</th>
<th>Cardiff and Vale</th>
<th>Cwm Taf</th>
<th>Hywel Dda</th>
<th>Powys</th>
<th>National Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cephalosporins Items % of Antibacterial Items</td>
<td>4</td>
<td>6</td>
<td>7</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Quinolone Items % of Antibacterial Items</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Co-Amoxiclav Items % of Antibacterial Items</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
Cephalosporin prescribing (items as % total antibiotics to Q2 2013-2014)

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
Cephalosporins as a % of antibacterial items
2013-2014 Q3

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
Quinolone items as a % of antibacterial items

2012-2013 Q3 versus 2013-2014 Q3

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
Co-Amoxiclav as a % of antibacterial items

2012-2013 Q3 versus 2013-2014 Q3

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
Multi-professional workshop, 26 delegates from across Wales

Nominal group technique (NGT) used to allow delegates to vote for three ranked priorities

Following feedback from group discussions, preferred messages collated

18 delegates voted on 11 themes
## ASF/AWTTC Workshop, Sept 2011

<table>
<thead>
<tr>
<th>Messages</th>
<th>TOTAL POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the guidelines (national, local electronic), joint primary and secondary care and justify deviation</td>
<td>36</td>
</tr>
<tr>
<td>Senior clinician to show leadership and take responsibility</td>
<td>20</td>
</tr>
<tr>
<td>Treat the patient not the result / appropriate swabbing</td>
<td>14</td>
</tr>
<tr>
<td>Adequate documentation of indication</td>
<td>11</td>
</tr>
<tr>
<td>Adequate clinical assessment (&amp; documentation)</td>
<td>11</td>
</tr>
<tr>
<td>Understand risks of antibiotics (NHS and patient)/use tools</td>
<td>11</td>
</tr>
<tr>
<td>Tell patients the natural history / what to expect</td>
<td>7</td>
</tr>
</tbody>
</table>
AWMSG National Audit 2013/14
“Focus on antibiotic prescribing”

http://www.awmsg.org/medman_cepp.html

The following National Prescribing Audits have been developed to highlight prescribing, safety and cost-effectiveness issues. The audits are intended to support the AWMSG National Prescribing Indicators 2013–2014.

CEPP All Wales Audit: Towards Appropriate Non-Steroidal Anti-Inflammatory Drug (NSAID) Prescribing
CEPP All Wales Audit: Reducing the use of High Acquisition Cost (HAC) Proton Pump Inhibitors (PPI) 2011-2013
CEPP Community Pharmacy Contact All Wales Multi-Disciplinary Audit Proton Pump Inhibitor (PPI)
CEPP National Audit: Patient Safety – Lithium Prescribing
CEPP National Audit: Repeat Prescribing
CEPP National Audit: Towards more Appropriate Management of Depression in a Primary Care Setting

CEPP National Audit: Focus on Antibiotic Prescribing

1. Antibiotic Prescribing for Sore Throat
2. Antibiotic Prescribing for Acute Rhinosinusitis
3. Antibiotic Prescribing for UTI in Females
4. Antibiotic Prescribing for Acute Cough or Bronchitis
5. Quinolone Prescribing
6. Cephalosporin Prescribing
7. Co-amoxiclav Prescribing
8. Hospital Prescribing of Antibiotics
9. Delayed Prescriptions
10. Read Coding to Identify HCAI
11. Practice Review Sheet
12. CPD Sheet
Navigating the Seven C’s of Prescribing

- Communication failures
- Critical circumstances
- Complacency
- Corner-cutting
- Callowness
- Courage of Convictions
- Commitment

“I had clerked her in and then, obviously, you go and you do some other things then I came back and just looked at the x-ray and the bloods and went to prescribe her benzylpenicillin and levofloxacin and literally... Er, so I prescribed them and the nurse got them up and was literally linking them up when it just dawned on me that she was penicillin allergic, but it was a complete fluke that it had dawned on me before they were given, but that, you know, the nurse hadn’t double checked it.

I hadn’t, I hadn’t double checked it when I prescribed it, erm, despite having her prescription chart I just, I think I was just busy and I just didn't think to cross reference and, you know, be systematic about thinking of allergies every time you write down, er, an antibiotic.” Interviewee 19 (medical school A) EQUIP Study 2008
AWMSG & Safe Prescribing

- Commissioned development of All Wales Single national in-patient prescription chart in 2004 through the All Wales Chief Pharmacists Committee (AWCPC)

- Latest version (2013) in Collaboration with RCP
  - **NEW:** more prominent drug allergy/sensitivity section
  - **NEW:** Thromboprophylaxis assessment section
  - **NEW:** oxygen prescribing section
NEW: More prominent drug allergy/sensitivity section

<table>
<thead>
<tr>
<th>Drug/Allergen</th>
<th>Description of Reaction</th>
</tr>
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<tbody>
<tr>
<td>Penicillin</td>
<td>Rash</td>
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</tbody>
</table>

This section must usually be completed prior to administration of any medicine. Refer to local policies for further guidance.
Undergraduate education

- Student Core Formulary containing 14 antibiotics

- Student prescription chart
  – Helen Day, Swansea University

- Student Selected Components (SSCs) on antibiotic prescribing
Postgraduate education

- > 650 GPs completed “Appropriate antibiotic use—whose responsibility?” in November 2012

WeMeReC bulletin & supplement
http://www.wemerec.org/bullet_avail_bulletins.htm
UK YELLOW CARD CENTRES

- Follow up of reports from their area
- Education, communication and promotion of adverse drug reaction reporting amongst local health professionals
Trend in total yellow card submissions in Wales April 2008–March 2013

To find out who your local Yellow Card Champion is, or to organise a local training session, please contact the Yellow Card Centre Wales via their website: www.yellowcardwales.org.
AWMSG and Antibiotic Stewardship

• Roles and responsibilities of AWMSG

• AWMSG and antibiotic issues

• Future developments
Co-create health with public, patients and partners – prevent the preventable:

- Wellness services
- Legislation
- Integrated Services
- Collaborative Commissioning
- WHSSC & HBs

Do no harm:
- Quality and Safety Focus

Do the Minimum Necessary:
- R & D
- Innovation
- Planned Care
- Primary Care

Constantly apply Evidence based Medicine in Practice:
- R & D / Innovation
- NICE & AWMSG
- Primary Care
- Systematic Evidence
- Health Technology Appraisal

Equity Based Care – Treating Greatest Need First:
- Health Inequalities
- Severity of Clinical Need
- Threshold Measurement

Equal Partnership with Professionals and Patients:
- Coproduction

Prudent Health Care

Courtesy of Phil Webb
AUDIT COMMISSION
A Prescription for improvement

Economies in prescribing, England and Wales (£ millions) 1994

[Diagram showing the breakdown of economies in prescribing]

- Less Overprescribing certain drugs
- Generic prescribing
- Limited clinical value
- Appropriate use expensive treatments
- Therapeutic substitution

http://www.audit-commission.gov.uk/subwebs/publications/studies/studyPDF/1089.pdf
“Training the Trainer” Workshops in Prudent Prescribing

• Case-based interactive learning delivered to all Health Boards using validated STOPP/START
  – 65 potentially inappropriate drugs called STOPP (Screening Tool of Older Persons' Prescriptions)
  – and criteria for 22 potentially appropriate, evidence based and clinically indicated medicines called START (Screening Tool to Alert doctors to Right, i.e. appropriate, indicated Treatment)

• Based on Wales Prescribing Indicators

• Based on NICE “Do NOT Do’s”

Future developments

• “Training the Trainer” workshops, 2014-15

• WAPSU report on 2013-14 prescribing data for Wales

• Results of the first year of the Yellow Card Champion initiative
# National Prescribing Indicators 2004 - 2013

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</tr>
</thead>
<tbody>
<tr>
<td>Antibiotics (items/1000 PUs)</td>
<td>156</td>
<td>155</td>
<td>163</td>
<td>148</td>
<td>146</td>
<td>146</td>
<td>160</td>
<td>167</td>
<td>159</td>
</tr>
<tr>
<td>Antibiotics (items/1,000 STAR-PU)</td>
<td>New measure for national indicator in 2012–2013</td>
<td>395</td>
<td>415</td>
<td>397</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top nine antibiotics (% of antibiotic items)</td>
<td>78</td>
<td>78</td>
<td>78</td>
<td>77</td>
<td>76</td>
<td>76</td>
<td>78</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>Quinolones (items/1,000 PUs)</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Quinolones (% of antibacterial items)</td>
<td>New measure for national indicator in 2012–2013</td>
<td>2.49</td>
<td>2.03</td>
<td>1.98</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cephalosporins (% of antibacterial items)</td>
<td>New national indicator for 2012–2013</td>
<td>7.12</td>
<td>5.35</td>
<td>4.95</td>
<td></td>
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</tbody>
</table>

Data from Welsh Analytical Prescribing Support Unit (WAPSU)
AWMSG has been involved in supporting rational prescribing (including prescribing of antibiotics) since 2002, & antibiotic stewardship was identified as one if its therapeutic priorities in 2010

New initiatives are now underway to support the safe, clinically- and cost-effective use of antibiotics and other medicines in Wales, and the antibiotic stewardship programme
Acknowledgements

• Chairs & members of the All Wales Prescribing Advisory Group (AWPAG)
  – Tessa Lewis & Louise Howard-Baker

• All Wales Therapeutics & Toxicology Centre (AWTTC)
  – Welsh Analytical Prescribing Support Group (WAPSU)
  – Welsh Medicines Resource Centre (WeMeReC)
  – Yellow Card Centre Wales (YCC Wales)

• All Wales Chief Pharmacists Committee

• Health professional partners in Wales

www.awmsg.org
Thank you

All Wales Medicines Strategy Group
Grŵp Strategaeth Meddyginiaethau Cymru Gyfan

Getting the best outcomes from medicines for Wales