Antibiotics in the Community
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National Medicines Conference May 2016
Gp 25 Years Elmwood
HCAI AMR QID 5th year
Antibiotics in the Community

“Presentations on the day will reflect the importance of all departments and organizations working together for the safe, effective and cost-effective use of medicines in society”

Antimicrobial Stewardship in the Community
Where are antibiotics prescribed and by whom?
What is Antibiotic Stewardship?

- Ensuring you prescribe the right antibiotic for the patient in front of you
- Right dose duration and route for the condition you are treating
- Cause the least amount of harm (toxicity) to that patient
- Least harm to future patients by limiting antibiotic resistance

Using antibiotics wisely and safely

- Only use for suspected bacterial infections
- Do Not prescribe for obvious viral infections
10 million deaths attributable to AMR worldwide by 2050 if current trends continue

2015 Every 10 minutes a patient dies

2015
25,000 die in Europe

Total GDP loss next 35 years = 100 Trillion USD

Deaths attributable to AMR every year by 2050

Because antibiotics are no longer effective against the bacteria responsible for the infection

Source: UK Review AMR Feb 2016 Prof Jim O Neill
Fluoroquinolones (R) resistant Escherichia coli isolates in participating countries

2003 - 2003

2013

Northern v southern European countries Source EARS-Net
What’s different about countries with low rates AMR

Primary Care Antibiotic Consumption Rates DDD’s

- Overall consumption of antibiotics is less.
- Greece and Cyprus use 3 times more antibiotics per head of population than Netherlands
- Use more narrow spectrum Antibiotics than broad spectrum.

Levels of AMR consistently correlate with the levels of antibiotic consumption
We use a lot of antibiotics in Ireland.
Antibiotic use is mid-to-high compared with other EU countries.

80% antibiotics prescribed in the community.
If you are resident in an Irish nursing home, you are more than twice as likely to be on an antibiotic than in any other European Country.

Majority prescribed within LTCF by GPs and directly-employed doctors.

39% prophylaxis
Regional variations in Antibiotic consumption HPSC Data

Regional variation in the use of antibiotics in Ireland
Barriers to effective Antimicrobial Stewardship in the Community

• Lack of true community resistance data
• Lack of accurate antibiotic data
• Lack of access to diagnostics laboratory and near patient e.g CRP
• Lack of access to experts in microbiology/ care of the elderly etc for complex cases -CHO
• Lack of leadership and governance
• Lack of time for everyone!
Antibiotic resistance? Sorry, not my problem

*J Antimicrob Chemother* 2016; 71: 27–33

55,425 people

- 70% of people knew that using too many or unnecessary antibiotics caused antibiotic resistance.
- The problem was they did not think they used too many or that their antibiotic use was unnecessary.
- BUT It was other people were the issue – doctors prescribing too many, other people using them unnecessarily and governments not tackling the issue.

11,593 health professionals

- 90% too many antibiotics=resistance
- ONLY < 70% thought an issue for their clinical practice
- Many did not see antibiotic resistance as a priority when faced with treating an individual patient.
- They attributed responsibility to patients, other countries and health-care settings.
- < 50% felt AMR influenced their decision

Prescribers and patients tend to overestimate the benefits of antibiotics and underestimate the harm they cause
Antimicrobial Stewardship – Key Elements

• Antimicrobial guidelines
• Appropriate diagnostics
• Timely resistance data
• Antibiotic prescribing data
• Microbiologist expertise
• Antibiotic pharmacist
• Clinical expertise e.g. care of the elderly
• Education prescribers
• Education patients and public

2001

[Images of logos and text]
What can individual Gp’s do to ensure safe antibiotic use?

Reflect on your individual prescribing habits.

Have I consulted the antibiotic guidelines recently? www.antibioticprescribing.ie

Am I familiar with the preferred antibiotics?
## Preferred Antibiotics in Primary Care

<table>
<thead>
<tr>
<th>Respiratory Infections (upper and lower)</th>
<th>Urinary Tract Infections</th>
<th>Soft tissue infections – cellulitis, acne</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penicillin V (phenoxymethylpenicillin) Calvepen®</td>
<td>Trimethoprim</td>
<td>Flucloxacillin</td>
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<tr>
<td>Amoxicillin</td>
<td>Nitrofurantoin</td>
<td>Doxycycline</td>
</tr>
<tr>
<td>Doxycycline</td>
<td>Fosfomycin</td>
<td>Lymecycline (Tetralysal®)</td>
</tr>
<tr>
<td>Amoxicillin and clarithromycin if Community Acquired Pneumonia (CAP)</td>
<td>Cephalexin</td>
<td>Trimethoprim</td>
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<tr>
<td>Clarithromycin if penicillin allergic or specific clinical indication</td>
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## Antibiotics to be avoided in Primary Care

| Co-amoxiclav (unless animal or human bite!) | Azithromycin – only on advice of consultant or if treating STI |
| Ciprofloxacin (only in proven resistant UTI or acute prostatitis) | Moxifloxacin – only on consultant advice |
| Most third generation cephalosporins | Macrolides (unless penicillin allergic or specific indication e.g. mycoplasma, helicobacter eradication) |
| Clindamycin | |

Refer to [www.antibioticprescribing.ie](http://www.antibioticprescribing.ie)
3 Groups of Patient GP Prescriber

- Bacterial infection
- Viral infection
- Not so sure - ? Crp /time
- OOH V Own GP
Narrow versus broad-spectrum

Penicillin V for strep throat  Co amoxiclav for strep throat

GP’s need to think more scientifically – what are you treating?
Barriers to changing Gp prescribing

Fear of what might happen if they withhold antibiotic

Perception that patients will be dissatisfied
**OOH The Reality at the Frontline**

**Southdoc**
- U 6 Jan –March 27%
- U 10 ............... 10%
- Difficult to see own GP
- Referral rate to hospital 55%

Doctor overworked, no time to review in few hours, how can I sort this problem now? BURNOUT

**OOH Antimicrobial Stewardship project**
- Improve quality of antibiotic prescribing by Gp
- Reduce demand for inappropriate antibiotic prescriptions
- Promote self-care and appropriate use of OOH service at triage reception and wait rooms
Antimicrobial Stewardship Practice Policy

- We use www.antibioticprescribing.ie to guide best antimicrobial choice to minimize AMR
- We prescribe preferred antibiotics for primary care as per HSE Medicines Management Programme
- Simple antibiotic prescribing audit to show policy in action
- Demonstrate how practice has reduced e.g. co amoxiclav, quinolone, macrolide use as % overall prescribing – Frontline Ownership
- NO different in/ OOH LTCF /Community hospital / Acute hospital / ED
<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Condition</th>
<th>Age</th>
<th>Dose</th>
<th>Duration</th>
<th>Preferred</th>
<th>Correct /Justified</th>
<th>Comment /Action</th>
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LTCF Resident 30 – 50% of frail, elderly long-term care residents can have a positive urine culture without symptoms of UTI

- Do NOT perform dipstick urinalysis if patients are asymptomatic or if urinary catheter present (false positives)

- A positive urine dipstick result in an asymptomatic patient is not significant and should not be treated

- DO NOT SEND URINE FOR CULTURE IF THERE ARE NO SIGNS AND SYMPTOMS OF UTI

Dysuria, frequency, urgency, new onset incontinence, fever >38°, suprapubic tenderness, haematuria

Urinary catheter: loin pain, fever >38°

Urinary Tract Infection – must have symptoms and signs
UNDER the weather

COUGH?

COLD?

SICK TUMMY?

GET ADVICE GET BETTER

undertheweather.ie
Tell patients when they should start to feel better

<table>
<thead>
<tr>
<th>Illness</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>Ear infection</td>
<td>around 4 days</td>
</tr>
<tr>
<td>Sore throat</td>
<td>around 1 week</td>
</tr>
<tr>
<td>Common cold (runny nose)</td>
<td>around 1½ weeks</td>
</tr>
<tr>
<td>Sinus infection</td>
<td>around 2½ weeks</td>
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<tr>
<td>Cough (which often happens after a common cold)</td>
<td>around 3 weeks</td>
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</tbody>
</table>
LTCF - Engage with the relatives

- Management plan
- Why antibiotics are being prescribed
- Why antibiotics are not being prescribed
- Why UTI prophylaxis is being stopped
- When can they expect their loved one to be better
Use antibiotics wisely and correctly!

• Take *exactly* as prescribed
• Finish the course!
• Don’t save for later
• Don’t share

• And when abroad....
Prescribing of antibiotics (all ages) in the GMS scheme from 2012-2014 inclusive

Antibiotics (top 10) - total number of items each year

- Amoxicillin and enzyme...
- Amoxicillin
- Clarithromycin
- Flucloxacillin
- Phenoxyethylpenicillin
- Nitrofurantoin
- Trimethoprim
- Cefadroxil
- Ciprofloxacin
- Doxycycline

Total number of items
2012 = 2.89 million
2013 = 2.83 million
2014 = 2.68 million

Ref: Analysis by Dr Kathleen Bennett for HSE Medicines Management Programme, 18th Nov 2014
Some more progress this year

- National Task for HCAI AMR
- Governance structure at Directorate level
- Governance at CHO level
- HCAI AMR committees each CHO
- Urinary resistance and antibiotic audit data tool for all Gp software systems 2016/2017
- OOH Antimicrobial stewardship project
Better data enables frontline ownership and it works!

- Accountable justification, 24.1 – 5.2 %
- Peer comparison 24.1 to 3.7 %
- Poster declaring intention to avoid inappropriate prescriptions reduced them by 19 %

Nudge doctors in the right direction
Keeping Antibiotics Safe And Effective For Future Generations ...

It’s everyone’s responsibility

It is individuals who decide to use antibiotics, and it is individuals who have the power to minimize use and halt antibiotic resistance.