

## Summary of PCRS AMRIC GP Green Red Reports 2019/2020 for

### AMRIC Oversight Group & Antimicrobial Stewardship Advisory Group

**Key Point:** In twelve months a prescriber feedback initiative has been associated with a substantial positive change in antimicrobial prescribing in General Practice.

#### Background & Introduction

- AMRIC & PCRS collaboration
- Each quarter since September 2019 each GP (if list >100 GMS patients) receives an individualised report on antibiotic use for their GMS cohort for an updated rolling 12 month period.
- Issue 5 circulated 5<sup>th</sup> October 2020.
- Report details the percentage of agent use that are green agents (safer more appropriate agents) and the percentage that are red agents (quinolones, most cephalosporins except cefalexin, co-amoxiclav, clarithromycin) and places GP own rate within a national quartile of low, midrange or high.
- Green agents: **cefalexin, amoxicillin, doxycycline, trimethoprim, nitrofurantoin, fosfomycin, lymecycline, flucloxacillin and penicillin V.**
- Red agents: **quinolones, most cephalosporins except cefalexin, macrolides, co-amoxiclav and clindamycin.**
- Each report has an educational nudge:
  - Report 1: introduction of green/red concept and report interpretation
  - Report 2: tips on safer use of clarithromycin
  - Report 3: tips on prescribing for UTIs
  - Report 4: tips on telemedicine prescribing, COVID-19 guidelines and azithromycin feedback
  - Report 5: moxifloxacin safety reminder, RTI prescribing including COVID-19, web what's new

#### Appropriateness of Antimicrobials

- PCRS data shown in Table 1
  - **Overall increase in Average 'Green' Percentage from July 2018 to March 2020: from 56.4 to 60.7 - 4.3%**
  - Overall narrowing in 'Green' Std Dev from July 2018 to March 2020 from 10.5 to 10.2

- Table 1:

	Avg 'Green' %	Std.Dev.
Report #1 (July 2018 - June 2019)	56.4	10.5
Report #2 (Oct 2018 - Sept 2019)	57.1	10.6
Report #3 (Jan 2019 - Dec 2019)	58.9	10.4
Report #4 (Apr 2019 - Mar 2020)	60.7	10.2

- Trends are carrying over to all community prescribing as shown in HMR data (represents dispensed antibiotics from 70% community pharmacies extrapolated to 100% figures) and wholesale community data
  - HMR data, Jan-Apr 2020 vs. Jan- Apr 2019: **co-amoxiclav down 28%, clarithromycin down 25%, doxycycline up 19%, cefalexin up 22%** (note some of time period comparison may have been affected by the unknowns and change in delivery of care in early phase of COVID-19 pandemic)
  - Wholesale data to end February 2020: showing similar positive trends, including reductions in **quinolones** and **cephalosporins** (except cefalexin).
- **Azithromycin** use is increasing, much of its initiation is in the acute setting. Engagement initiated with national respiratory programme to progress quality improvement project.

- **Moxifloxacin** safety alert issued by PCRS on behalf of AMRIC. Issued to GPs Sept 2019 and Community Pharmacists Feb 2020.

	2019 Q1	2019 Q2	2019 Q3	2019 Q4	2020 Q1	% change from Q1 2019 vs. Q1 2020
Moxifloxacin prescriptions	1136	695	497	535	545	52% reduction

- Current use shows geographical spread across LHOs and spread across age groups.

### Feedback received from GPs (feedback italics, commentary alongside)

- *Azithromycin prescriptions are mainly hospital initiated*, and the component related to hospital initiated prescriptions be quantified (e.g. hospital emergency vs. GP Rx). Currently this may not be feasible.
- *Suggestion to quote a rate*, i.e. number of total antibiotic prescriptions per 100 GMS patients, for each GP to allow comparison to the overall national average. This will have the caveat of being influenced by the patient cohort, i.e. a higher rate will be expected in an older population. However it will be a very useful tool to help GPs gauge if have a higher/lower rate of prescribing. PCRS will work with AMRIC to assess the feasibility of this for 2021 reports and if it can be presented by age group.
- *Possibility of electronic version of report* to be added to GP suite. This is to allow ease of access for GPs to their historical reports to allow comparison. PCRS have agreed to work towards this.

### Recommendations

1. As an interim add footnote/line within letter re: azithromycin acknowledging feedback and plan
2. Publicise the success of this initiative in conjunction with AMRIC Communications Manager – RESIST newsletter, ICGP Forum newsletter, PSI newsletter, IPU newsletter, Irish Pharmacy News, Health Matters.

Figure 1: Visual of the green red antibiotic classification

In many cases the Preferred Antibiotic is No Antibiotic

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Preferred Antibiotics in Community
See [www.antibioticprescribing.ie](http://www.antibioticprescribing.ie). If antibiotic therapy is indicated the preferred first line choices below are effective, have fewer side effects, and are less likely to lead to resistant infections.

Respiratory Infections (upper and lower)	Urinary Tract Infections	Soft tissue infections - cellulitis, acne
Penicillin V (phenoxymethylpenicillin)	Nitrofurantoin*	Flucloxacillin
Amoxicillin	Cefalexin	Cefalexin
Doxycycline*	Trimethoprim*	Doxycycline*
	Fosfomycin*	Lymecycline*

☒
Antibiotics to be avoided first line in community

<p>Co-amoxiclav      Risks: C.diff Unless as first line for: animal or human bite; facial cellulitis; post partum endometritis; caesarean wound infections; perineal wound infection</p>	<p>Quinolones      Risks: C.diff Drug Intx, Tendon/Nerve, AA+D, QT, Seizure</p> <ul style="list-style-type: none"> <li>Levofloxacin* – unless consultant advice or known resistance to preferred AB in COPD acute exacerbation</li> <li>Ciprofloxacin* only in proven resistant UTI or acute prostatitis/epididymo-orchitis</li> <li>Ofloxacin* – only on consultant advice or if treating genital infxn</li> <li>Moxifloxacin* – AVOID risk of severe liver toxicity</li> </ul>	<p>Other cephalosporins      Risks: C.diff</p> <ul style="list-style-type: none"> <li>Cefaclor</li> <li>Cefixime</li> <li>Cefuroxime</li> </ul>
<p>Clindamycin*      Risks: C.diff</p>	<p>Macrolides      Risks: C.diff, Drug Intx, QT</p> <p>Unless TRUE PENICILLIN ALLERGY or specific indication e.g. mycoplasma, helicobacter eradication</p> <ul style="list-style-type: none"> <li>Clarithromycin*</li> <li>Azithromycin* – only on advice of consultant or if treating STI</li> <li>Erythromycin* – best avoided as other macrolides better tolerated</li> </ul>	

AA+D – risk of aortic aneurysm and dissection, Seizure – lowers seizure threshold, QT – prolongation of QT interval.  
Antibiotics marked \* may be safely used in patients with true penicillin allergy (immediate hypersensitivity).  
See [www.antibioticprescribing.ie](http://www.antibioticprescribing.ie) for details

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